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AUTHOR Sitlington, Patricia L.; And Others
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ABSTRACT

This sourcebook deals with the basic work behaviors and vocational skills that should be targeted in a secondary level program for students with autism. A chapter titled "The Vocational Training Continuum" presents the theoretical basis for developing a continuum of vocational experiences needed by the autistic learner. It describes existing vocational training models for the severely handicapped, issues and questions emerging from these models, and the vocational training continuum developed by the Transitional Autism Program at Indiana University's Developmental Training Center. "Vocational Assessment" reviews types of information needed in the assessment process, describes methods of obtaining assessment information, and provides a model for ongoing assessment tied to vocational programming phases. "Teaching Entry Level Vocational Behaviors: Identifying Individual Objectives" focuses on establishing appropriate objectives in the areas of communication, endurance/continuous working, compliance, interpersonal behavior, rate, and accuracy. "Teaching Entry Level Vocational Behaviors: Manipulating Instructional Variables" uses instructional variables as a means to teach flexibility and independence within the context of work behaviors. Specific manipulations of environment, structure/routine/schedule, materials, and expectations/reinforcement are examined. Appendices contain a summary of formal assessment instruments, student profile database forms, vocational assessment summary, sample individual educational plans, and sample behavior plans. 25 references. (JDD)

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Anthony W. Dewees

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Indiana University Developmental Training Center

VOCATIONAL PROGRAMMING

FOR

STUDENTS WITH AUTISM

by: Patricia Sitlington, Ph.D.
Nancy Dalrymple, M.A.
Anthony Dewees, M.S.

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to

Our students with autism who try so hard.

Joy Lucas, Steve Buchmann, Sheila Wagner, Emily Jackson, Misha Angrist, Dana Flanders, Kim Andis and all the other teachers who believe the students can learn to work independently.

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Developmental Training Center

Henry J. Schroeder, Ed.D., Director

Susan K. Shuster, Ph.D.
Associate Director of the Unit for the
Development of Child, Youth & Family Programs

Nancy J. Dalrymple, M.A.
Coordinator of Transitional Autism Program

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2853 East Tenth Street
Bloomington, Indiana 47405
(812) 335-6508

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PREFACE

This guide is designed for educators who are responsible for preparing students with autism to enter the world of work. In secondary school, development of specific work behaviors and opportunities to experience real work environments should receive major emphasis in the curriculum to ensure that students will successfully transfer into work settings. For students with autism of all ages the teaching of independence and the teaching of functional skills and behaviors must be targeted.

This guide was developed at the Indiana University Developmental Training Center as an outgrowth of a program for a group of autistic students ranging in age from 15-21. These students all have severe autistic behaviors and most function in the moderate to severe range of retardation. Community schools had been unable to provide appropriate programs for these students and more than half of them had been in institutions. The guide provides a plan for designing an individualized vocational curriculum. Specific vocational skills are not the focus; rather, the guide addresses work behaviors that students must be taught in a variety of work environments. Thus, this guide presents a detailed framework for teaching these behaviors.

To use the guide effectively, an educator should have basic knowledge of vocational training and must be open to the idea of people who are severely handicapped working in community settings. Educators should also understand the process of teaching students with autism and be willing to modify, analyze, question and advocate for these students. Most people with

autism will not be "ready" to work unless they are taught the behaviors and skills needed to work.

CHAPTER I

THE VOCATIONAL TRAINING CONTINUUM

This sourcebook will deal with the basic work behaviors, general vocational skills and specific vocational skills that should be targeted in a secondary level program for students with autism. Specific methods found to be effective in teaching these skills will be covered, along with the types of information to be gathered in the vocational assessment process and methods of obtaining this information. This chapter presents the theoretical basis for the development of a continuum of vocational experiences that must be provided to the autistic learner as well as a description of the continuum needed to effectively teach work behaviors and skills. In particular this chapter will present: (a) existing vocational training models for the severely handicapped; (b) issues and questions emerging from these models; (c) the vocational training continuum developed by the Transitional Autism Program; and (d) the relationship of this continuum to the overall training program.

Existing Vocational Training Models

At present a great deal of confusion exists relative to the context and roles which secondary and post-secondary level programs should play in preparing school-aged severely handicapped learners for the transition to the world of work. Efforts by different groups having different perspectives have resulted in a number of program models which are currently being implemented in various work training programs (Bellamy, Rose, Wilson, & Clarke, 1981). In general, these programs fall into

seven categories. The first five are models that are being used at the secondary level; the last two are being used in post-secondary level programs. Each of these models will be briefly reviewed in the following paragraphs.

Secondary Level Models

The first of these approaches views the role of secondary programs as one of providing prevocational training. It focuses on teaching personal/social skills and work habits identified as necessary for entrance into vocational training programs and successful subsequent adjustment to them. Mithaug, Hagmeier & Haring (1977), for example, identified behaviors viewed by sheltered workshop staff as necessary for admission into their programs. This list of behaviors provides a core of instructional objectives for secondary programs with the goal of preparing students for entry into training programs in rehabilitation facilities.

A second approach to programming at the secondary level involves establishing a school-based workshop modeled after sheltered employment programs. It is usually located in a separate area of a classroom, or even in a separate room in the school. The goals are to provide the student with the specific vocational skills needed for sheltered work (Brown, Bellamy, & Gontag, 1971) and to develop the work related behaviors needed to function in the sheltered workshop environment (Lynch, 1979).

Whereas the first two approaches focus on generalized work preparation, the last three approaches attempt to prepare learners directly for the transition to work. The first model in

this genre provides work experience for the student through actual jobs performed in the school, in the community rehabilitation center, or in the community. This approach is modeled after that used with mildly handicapped students. Its goal is to provide the student with the opportunity to learn some basic work behaviors and skills while in a real-life situation. Since the approach does not emphasize specific skill training, it must be combined with specific occupational skill training at a future time.

The fourth model is a direct approach to employment preparation. This model focuses on specific job training and has three components: matching the student with an appropriate community job, systematically analyzing that job for the specific vocational and work related skills needed, and providing the student with training in these skills on the actual work site. The advantages of this approach center on the ability of the school to focus on training directly related to employment, and to place the student directly in employment in the community. The disadvantages are related to the relative expense of the training and to the narrowness of the range of skills that are learned by the student, as well as the inability of the school to provide support services once the student is graduated.

The final model found at the secondary level uses the cluster strategy, in which students are taught to perform a set of related tasks in such broad clusters as woodworking, electronics, or manufacturing. Specific examples of clusters found useful with the severely handicapped are in the areas of food service (Rusch & Mithaug, 1980; Sowers, Thompson, & Connis,

1979), and specific tool use skills (Bellamy, Wilson, Adler, & Clarke, 1980). Under this model, specific clusters of skills which underlie many basic vocational tasks are analyzed to identify the full range of performance requirements. Students are taught to perform these tasks, and their performance is evaluated using examples which have not been taught. The major advantage of this strategy is found in the flexibility and job mobility that result from successful training. Students who have mastered cluster skills should adapt more easily to changing work requirements since generalization to other tasks had been systematically programmed. This process, however, must be combined with training for a specific job to achieve adequate vocational preparation of the severely handicapped.

Post-secondary Training Models

A number of programs have focused on training severely handicapped learners after they have left the public school system. There are two separate groups of approaches taken by these programs.

The first group of approaches centers on upgrading sheltered work programs, and provides extended employment within the workshop at high wage levels (Bellamy, Horner, & Inman, 1979). Variations of this approach include sheltered workshops that function as factories with minimal public subsidy (DuRand & Neufeldt, 1975), workshops that contract to perform jobs in normal work situations, enclaves within industry, and mobile work crews in which subcontract work is performed in the normal work setting in the community. Advocates of this group of approaches

argue that severely handicapped clients can earn much higher wages than is normally possible in personal service jobs in the community, and that they maintain uninterrupted employment. Models which have adopted this approach have concentrated on using task analysis, training clients in high level skills, obtaining work requiring these skills, upgrading supervision of clients on these tasks, and transforming the sheltered workshop into an industrial work center rather than a social service agency.

The second post-secondary level model has focused on direct preparation of severely handicapped clients for competitive employment in service or light industry. Those advocating this approach argue that, although wages may not range much above entry level, integration of disabled workers with non-disabled workers far outweighs monetary compensation. A number of programs have followed this approach (Rusch & Mithaug, 1980; Schalock & Harper, 1978; Wehman & Hill, 1982). The main emphasis of this model is on surveying the community for appropriate job placements, training severely handicapped clients for the job, and placing and supervising individuals directly in competitive employment. This approach usually entails: (a) development of the full sequence of skills required in the target occupation using a training program on an actual job site or a simulated job site within the training center; (b) practice job opportunities within the community; and (c) specific on-the-job training by a trainer-advocate (job coach) selected for the individual (Wehman & Hill, 1982).

Summary

There are a number of models currently being used at both the secondary and post-secondary levels for preparing severely handicapped youth for the world of work. However effective each of the above models may be, they have all been developed at either the secondary or post-secondary level with little attention devoted toward developing a model to guide articulation and transition between the two levels. If the optimum preparation of autistic youth for competitive employment is to be attained, the preparation provided at the secondary level must be closely coordinated with the training and programs available at the post secondary level and the goal of this training must be determined as early as possible in order to assure a coordinated training effort from high school through adulthood.

Issues and Questions

Before a vocational training model can be developed or adopted for a specific training program, a number of questions must be addressed by program staff. These questions center on three specific areas: (a) what is the target employment environment for students in the program? (b) what is the role of the specific program in preparing students for this environment? and (c) what skills are needed by the student to succeed in this environment? Figure 1 presents these questions and the options available as responses.

ISSUES / QUESTIONS

I. TARGET EMPLOYMENT ENVIRONMENT

- Unsupported community-based employment
- Supported community-based employment
- Sheltered enclaves in industry
- Mobile work crews
- Specialized industrial employment
- Work activity center

II. ROLE OF PROGRAM

- Direct preparation for community-based employment
- Direct preparation for sheltered employment
- Preparation for additional training in rehabilitation center

III. TRAINING AREAS

- Basic work behaviors
- General vocational skills
- Specific vocational skills

Figure I

Target Employment Environment

The first issue relates to the end goal for the learner--the target employment environment. The possible options, along a continuum from least to most restrictive environment, include: (a) unsupported community-based employment; (b) supported community based employment; (c) sheltered enclaves in industry; (d) mobile work crews; (e) specialized industrial employment; and (f) employment in a work activity center. The first four of these options involve employment in the community.

Unsupported community-based employment relates to basic competitive employment at a wage comparable to other workers and with only the support services available to non-disabled workers or with time-limited support services, such as placement and limited follow up by a vocational rehabilitation counselor. The second option, supported community-based employment, encompasses employment as an individual in a community-based setting but with ongoing support services such as a job coach or continued assistance by a professional or by fellow workers. This employment may be at subminimum wage or involve job sharing where two or more disabled workers assist in the same job. Sheltered enclaves in industry, the third option involves transferring the industrial work normally done in a sheltered workshop to a factory or other industry. Individuals who are severely handicapped would continue to work in small groups and be paid by the rehabilitation center or other agency, but would conduct their work in a normalized environment, and function as any other production unit, taking breaks, etc., with the other workers. The fourth option, mobile work crews, would also involve the worker who is disabled being employed by the rehabilitation center or other post-secondary agency. This employee would work in small groups of closely-supervised individuals performing paid work in the community, such as janitorial work, lawn and garden tasks, or cleaning of homes or offices.

The final two employment options for individuals who are severely handicapped involve employment in a sheltered environment. Specialized industrial employment would involve the client performing advanced assembly or other tasks within a

structured setting operated by the post-secondary agency, such as a rehabilitation center. The final option, work activity center, would be reserved for extremely low functioning clients who are producing at a rate far below that required for jobs in the community or in the sheltered workshop.

Role of Program

The role which the secondary program should play in the vocational training of autistic youth depends upon a number of variables including: (a) characteristics of the individuals involved; (b) the target employment environment(s) identified for these youth; and (c) the services available to them after they leave the secondary program. Once these variables are taken into account, program staff must chose one of three roles in the preparation of a given individual: (a) direct preparation for community based employment; (b) direct preparation for sheltered employment; or (c) availability of additional training in rehabilitation centers or other community-based agencies.

Emphasis on Training Areas

Once the target employment environment(s) and program role(s) have been determined, program staff must decide the emphasis they will place on the following training areas: (a) basic work behaviors; (b) general vocational skills; and/or (c) specific vocational skills. Procedures for teaching efficient work behaviors and general and specific vocational skills will be discussed in depth in succeeding chapters. It is crucial, however, that the emphasis the program staff decides to place on skills and behaviors be determined in relation to the goals and role(s) defined for the program.

Vocational Training Continuum

The vocational training continuum developed by the Transitional Autism Program incorporates the program's decisions regarding the target employment environment for its students, the program's role in training, and the behaviors and skills to be taught. This model, which is presented in Figure 2, has three major components: (a) the end goal; (b) target behaviors; and (c) program phases. The end goal for the Transitional Autism Program is supported work in the most competitive environment possible. The goal of the program staff is that of community based employment. The severity of the handicaps of the majority of the program's students, however, dictates that community based employment will be accomplished primarily as supported employment, with support services delivered to supervisors and to the workers themselves. It is also the goal of program staff that final employment be paid.

The second component of the model is the target behaviors to be trained. These behaviors will be discussed in depth in Chapter III and include basic work behaviors, general vocational skills, and specific vocational skills. The third component of the model is the program phases. These phases are based upon the concept of career education, defined by the U.S. Office of Education (Hoyt, 1975) as "the totality of experiences through which one learns about and prepares to engage in work as a part of his or her way of living". Specific models of career education have been developed for the disabled (Clark, 1979; Kokaska & Brolin, 1985). Both of these models present career preparation as a sequence of activities, beginning with career

TARGET BEHAVIORS	PHASES				END GOAL
	Work Exploration & Experience		Targeted Job Training		
	Within Program	Community	Within Program	Community	
I. **Basic Work Behaviors** Communication Endurance Compliance Interpersonal Behavior Rate and Accuracy	X	X	X	X	
II. **General Vocational Skills** A. Manipulative/Perceptual - i.e. -assembly -tool use -packaging -sorting -collating	X	X			Supported work in the most competitive environment possible. • paid • with support services -to supervisors -to workers
B. Skills for Personal Service Jobs - i.e. -cutting up food -bussing tables -mopping -cleaning sinks	X	X			
III. **Specific Vocational Skills** For Job Type - i.e. -food service -laundry worker	X	X	X	X	
For Specific Site - i.e. -Holiday Inn Maid -Folder at Convalescent Center -Packaging paper goods at Whitestone Industry			X	X	

VOCATIONAL TRAINING CONTINUUM FOR AUTISTIC YOUTH
Developed by: Patricia L. Sitlington
Tony Dewees
Transitional Autism Program
Developmental Training Center

Figure II

awareness activities at the elementary level. Career exploration activities then begin in junior high school, followed by career preparation in senior high school and beyond.

The two major phases within the vocational training continuum are work exploration and experience and targeted job training. Both of these phases may include experiences within the program and in the community. The goal of the work exploration and experience phase is to provide opportunities for the student with autism to explore the world of work and to exhibit skills in real-life situations. This phase also provides an excellent opportunity to collect ongoing assessment data on the student in a variety of settings in order to determine the best match between the student and the job based upon the work environment and the skills required.

The second phase within the continuum is that of targeted job training. This phase occurs only after the student has had an opportunity to explore a number of work environments and jobs and the staff and student feel that a specific occupational area is the best match for the student. This phase includes a detailed analysis of the targeted job and on-site training of the learner, both in terms of the basic work behaviors and specific vocational skills required. Again, this phase may begin with training in a work site within the school or program, such as a model apartment or the school cafeteria. Ultimately, however, the training will have to occur in the specific setting in which the student will be employed.

Two important points need to be made regarding the vocational training continuum developed by the Transitional

Autism Program. First, although it is a continuum with specific phases, the student need not go through experiences within the program before being placed in community based sites. The staff does feel, however, that it is important to expose the student to a number of work exploration experiences before an occupational area is chosen for specific skill training. This allows the staff to observe the student in a number of different settings and allows the student to experience a number of different jobs before indicating the tasks and working environment that are most preferred.

It should also be pointed out that different behaviors and skills are targeted for training in the different phases of the program. The work behaviors and vocational skills emphasized in specific phases of the program are indicated with an "X" on the Vocational Training Continuum. As can be noted from examining Figure 2, basic work behaviors and the general vocational skills are both targeted in the work exploration and experience phase along with some specific vocational skills. In the targeted job training phase, major emphasis is placed on training in specific vocational skills both for the basic job type, such as food service worker or laundry worker, and for the specific site, such as a specific motel or restaurant.

Relationship of the Continuum to the Overall Training Program

The vocational training continuum provides a plan of operation for providing learners who are severely handicapped with the vocationally-related experiences needed to develop the requisite work behaviors and general and specific vocational

skills. It allows the student to apply the basic skills presented in the classroom setting to the real-life environment; it allows program staff to make instruction much more realistic.

For the vocational training continuum to be effective, however, it must be closely coordinated with other components of the instructional program. School instruction must provide the needed functional skills and underlying work behaviors needed for success in the community-based work experiences. All of this can be accomplished by including the specific vocational training phase and vocational placement within the Individualized Educational Plan, along with the behaviors and skills to be targeted. In addition, the vocational assessment process as described in the next chapter, must be closely integrated with the vocational training continuum. The vocational training experiences provide extremely valuable information on the current functioning level of the student, as well as on emerging interests and skills. The results of ongoing vocational assessment provide the information needed to determine the next placement for the student and the specific behaviors and skills that need to be emphasized in this placement.

Summary

The area of vocational training for students with autism is in its infancy, and much of the theoretical base for program development must be drawn from the literature related to programming for the severely handicapped. It is crucial that program staff are aware of the vocational training models presented in this chapter and that they address the issues of

target employment environment, program role, and behaviors and skills to be trained. It is also critical that programs for youth with autism work closely with other vocational training programs in the community, both at the secondary and post-secondary level.

The goal of a vocational training program is to obtain the best "match" between the individual and the work environment, and to identify the support services needed to maintain the individual in that environment. As with other areas of programming for students with autism, it is very important that vocational assessment and training be conducted in an environment as close as possible to the target employment environment for the learner and that the individual be given a number of opportunities to apply the behaviors and skills learned in the natural environment. Ongoing observation of the student with autism in community-based work settings provides critical information needed to obtain the desired match between the individual and the world of work.

CHAPTER II

VOCATIONAL ASSESSMENT

The role of assessment in the vocational training process is similar to the role of assessment in any instructional process. The primary goals of vocational assessment should be: (a) to determine the individual's interests, strengths, and needs as they relate to the future role as a worker; (b) to determine the best methods of instruction for the individual; (c) to provide data for determining the best placement within the vocational training program; (d) to identify the support needed for the student to benefit from this program; (e) to determine the best placement alternatives for the individual at the conclusion of the training program; and (f) to identify the support services needed to make the successful transition to the post-school environment.

In essence the goal of vocational assessment is to provide the information needed on the learner with autism to make the best match between the world of work and the student's interests, skills, and work environment preferences. The vocational assessment process should be an ongoing process that runs concurrently with the vocational training program, providing continued information needed by the program and using the various program stages as sources of assessment data. In this way one can obtain an accurate, up-to-date, and comprehensive picture of the learner's strengths and needs.

The purpose of this chapter is to provide an overview of the types of information that need to be gathered during the assessment process, describe the basic methods of obtaining

assessment information, and provide a model for ongoing assessment tied to the vocational programming phases described in the previous chapter.

Types of Information to be Gathered

The close relationship between the vocational programming and assessment processes requires that program staff members determine the types of information needed by their program and then select the assessment techniques and instruments that will provide this information. Types of information that need to be gathered on youth with autism can be grouped into seven categories: (a) medical, with specific emphasis on related health conditions and medication that need to be considered in determining final job placement; (b) functional academic skills that can be used in performing vocational duties; (c) interests, such as preference for certain activities or certain types of physical environments; (d) preferred learning modes and types of effective reinforcers; (e) basic work behaviors, such as communication, endurance, compliance, interpersonal behaviors, and rate and accuracy; and (f) general vocational skills, including manipulative and perceptual skills and cluster skills required for a specific type of job, such as busperson or dishwasher. Each of these areas will be discussed in the following paragraphs.

Medical Information

The information gathered in the medical area should focus on factors that need to be considered in placing the autistic youth on paid or non-paid job experiences. Do the student's related

health problems eliminate certain occupations because of excess physical demands? Will the medication taken by the individual interfere with the performance of certain job tasks? These questions need to be carefully considered for the individual's safety, the safety of all persons in the work environment, and for the legal protection of the employer and the program.

Functional Academic Skill Competence

Individuals with autism differ from students classified as severely retarded in that they sometimes exhibit splinter academic skills such as calculating math problems in their heads. The presence of such skills can be a valuable tool in locating employment for these students. The lack of basic functional academic skills also needs to be considered in determining the specific support the individual will need during training and on the job. If the proper match can be made between these skills and the academic and behavioral demands of the employment environment, the student with autism will have a much greater chance of success. Such functional academic skills would include reading functional signs and specific words required on the job, reading written directions on containers, doing basic addition and subtraction, being able to use a calculator, and using basic measurement tools, such as a ruler or measuring cup.

Interests and Environmental Preferences

The area of student's personal interests is one that is often overlooked in working with severely handicapped individuals. Although the interests of youth with autism can seldom be assessed through the traditional method of interest surveys, preferences for certain types of activities, people, and

environments are usually very strong. These preferences can be noted through structured observation techniques as well as through interviews with the individual's parents or guardians and other professionals who have worked with the student in the past. People usually perform more effectively and efficiently if they are doing what they like to do; the same principle holds for students with autism. Work exploration and experience offer ideal settings for observing the learner's preferences in real work settings.

Learning Style

The succeeding chapters will discuss the importance of determining the most effective instructional and behavior management techniques for use with students with autism. The assessment process can assist in identifying these techniques and validating their effectiveness by systematically collecting data on various approaches implemented and their effects in terms of student performance and behavior.

Basic Work Behaviors

The basic work behaviors that need to be targeted in a vocational training program are the ones to be targeted in the assessment process. These behaviors include: (a) communication, such as being able to communicate basic needs, responding appropriately to social contacts; (b) endurance and working continuously, e.g., working at job station continuously, working alone without disruption; (c) compliance, e.g., responding to instructions that require an immediate response, responding appropriately to safety signals given; (d) interpersonal

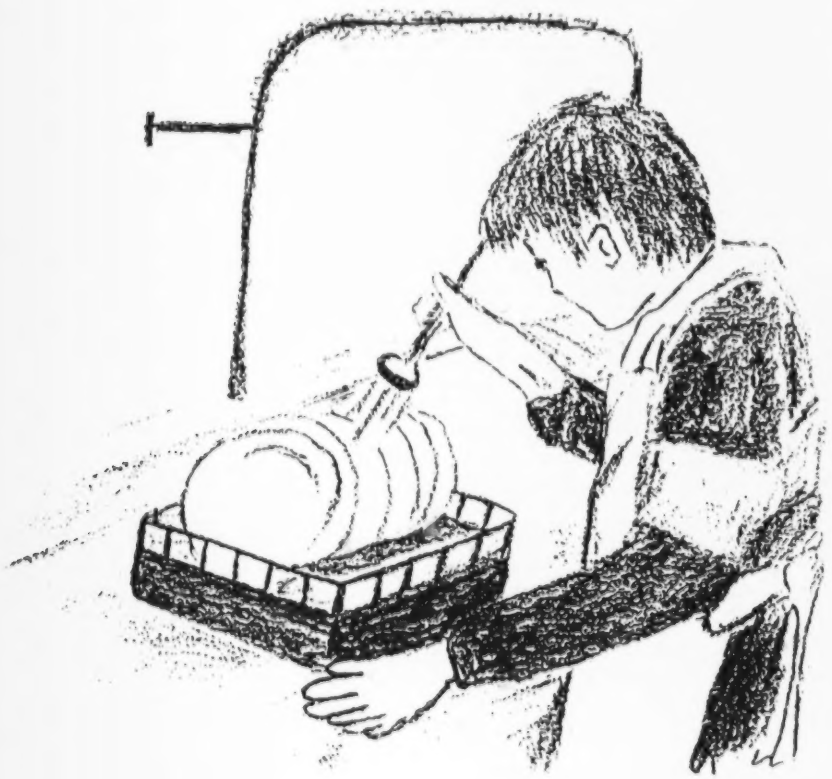
behaviors, such as working without disruption; and (e) rate and accuracy, e.g., completing repetitive tasks with one step, working alone and increasing production. Baseline data can be gathered during the initial phases of assessment and continuous data can be kept during all stages of work exploration and experience. In this way the learner's behavior can be monitored in simulated or real work environments that exhibit different characteristics and require different levels and types of performance.

General Vocational Skills

Although basic work behaviors cause the most problems for autistic youth, the lack of generalizable vocational skills can also make job placement and training problematic. The types of skills that should be assessed in this area relate to the types of jobs on which the learner might be placed, both during the work exploration and experience phase and for actual job training. The first cluster of skills relate to assembly tasks and include such manipulative and perceptual skills as sorting, assembly, tool usage, eye-hand coordination, and fine and gross dexterity. The second area of information relates to cluster skills that are required in a number of personal service jobs, such as mopping, cleaning tables, and washing and stacking dishes. Gathering information on the performance of these skills in both simulated and real settings will assist the staff in determining future placements to explore and in identifying the final job placement for the individual.

Specific Vocational Skills

Information on specific vocational skills is often the last type of information to be gathered in the assessment process and is usually gathered in the program-based or community-based site in which the student is being trained. Once an indepth task analysis has been completed on the targeted job, a checklist can be developed. Assessment of these skills then involves observing the learner attempting the task and systematically recording whether the individual completed the step independently or with verbal or physical prompts, or did not complete the step at all. Such data kept on a day to day basis will yield an ongoing picture of student performance.



Vocational Assessment Techniques

A number of techniques can be used to obtain the information needed in order to develop, implement, and monitor a vocational training program for autistic youth. The majority of these approaches have been borrowed from the established field of vocational evaluation in rehabilitation centers. Although they can be grouped in different ways, they basically consist of the following techniques (Brolin, 1982; Peterson & Hill, 1982; Sitlington, 1981):

(a) interviews of parents, the student, former teachers and other professionals who have worked with the student;

(b) paper and pencil tests, such as those measuring functional academics, vocational interests, and attitudes towards work;

(c) manual dexterity tests, measuring areas such as finger dexterity, gross motor skills, and eye-hand coordination;

(d) commercial assessment systems, which measure either performance on basic job tasks or underlying traits associated with many different occupations;

(e) self-developed work samples, which are structured simulations of real-work environments that measure specific types of occupations or underlying traits ; and

(f) situational assessment instruments, such as rating scales, checklists, and other behavioral observation forms used to systematically observe the individual in real-work environments within the program and/or community.

The following sections will present each of these techniques, the types of information that can be gained from

them, and the applicability of each technique in programs for students with autism.

Structured Interviews

The first method of gathering assessment information is the structured interview. In this method the person being interviewed is asked a series of pre-established questions designed to provide the information needed. In addition the interviewer is encouraged to probe certain responses for more information and to record other data provided by the interviewee. The main individuals who can provide information on the student are: professionals who have worked with the student in other settings or programs, the student's parents or guardians, and sometimes the student himself.

Structured interviews of professionals who previously have worked with the student can provide valuable background information in a number of important areas. These include: medical information, functional academic skills, interests and environmental preferences, learning style, and basic work behaviors. Two basic cautions should be observed, however, in gathering and interpreting this information. First, as unbiased as professionals attempt to remain, the information conveyed on an individual learner reflects positive and negative experiences with the learner. Thus, any information received from previous teachers, therapists, or social workers could affect one's perception of the student at the present time.

Secondly, observational data shared by a student's former teacher most likely was collected in the classroom or home

environment, not in the workplace. Indeed, the student's behavior in the workplace may differ greatly from that demonstrated in the formal instructional setting. If the program staff can keep these two cautions in mind, the data they gather will be helpful in providing a base from which to work. Although this procedure may be more time consuming than a written questionnaire, the interview procedure allows for probing of basic questions. In addition, those being interviewed are likely to respond verbally in much more detail than in writing.

The parents or guardians of students with autism present an often untapped source of information in all of the areas for which information is being sought. Parents have not only observed their child in the non-structured environment of the home and neighborhood, but they can provide information on former or current interests of the student, the type of activities engaged in during free time, etc. The parent interview also provides information on the expectations of the parents and how realistically they view their child's disability. Separate interviews with each parent provide an even clearer picture of parental expectations. As with the student's former program staff, the structured interview provides the opportunity for informal interaction with the parents and affords the possibility of much more information.

The final target of the interview process may be the student, if her communication skills allow such interaction. A basic interview should focus on what the student likes to do and what jobs she has done in the past. Brief interviews with students following work experiences can provide even more

realistic information on whether they liked the job, what they liked most and least about the job, etc.

Paper and Pencil Tests

The term paper and pencil tests is used here to denote any assessment instrument which is usually administered with paper and pencil including tests which require the learner to respond to pictures, answer written or verbal questions, and/or record the answer through writing. This technique is the farthest removed of the assessment techniques and probably offers the least utility for the student with autism. Since the student is not required to manipulate any pieces and must respond at best to two-dimensional pictures, one of the major problems with this method is holding the learner's attention and ascertaining whether the student is transferring from real-life experiences to a task removed from the real-life environment.

If the student is able to relate to the testing instrument, however, some basic introductory information can be gained, especially in the area of functional academic abilities. Program staff should be certain, however, that the student is relating to the task and can understand the questions being asked. Reliability and validity of the instrument should also be checked, along with the norming population for the test.

Manual Dexterity Tests

Manual dexterity tests measure such areas as eye-hand coordination, finger dexterity, gross motor dexterity, and use of small tools. These instruments can be useful in ascertaining how well the student may be able to function on the type of small

assembly tasks found in industry and sheltered employment. Manual dexterity tests can also be used to observe the student's basic work behaviors, such as endurance, reaction to frustration and pressure. In addition, certain of the tests can be used as vehicles to observe the methods the student chooses to attack a certain problem and whether he consistently uses this approach in solving the problem.

There are a number of manual dexterity tests on the market, many of which measure overlapping skills. These tests usually measure the following types of skills: (a) finger dexterity and use of small tools, such as tweezers and small screwdriver; (b) hand-arm movement and gross motor skills; (c) perception of shapes; and (d) use of larger tools, such as wrenches and pliers. The specific tests used by the Transitional Autism Program are presented in Appendix A along with a brief description of the tasks they involve and the modifications that need to be made for use with students with severe autistic behaviors.

Because manual dexterity tests involve active manipulation of pieces and participation of the learner, they usually hold the interest of autistic youth being tested. The norm groups for the majority of these tests are quite dated and many autistic students often do not place even on the bottom of the norm tables. It is fairly easy, however, for a program to develop its own norm tables, one set based on a sample of non-disabled individuals and one set based on students formerly and currently in the program.

Commercial Assessment Systems

The available commercially developed assessment systems vary greatly in the types of tasks required of the testee and their resemblance to actual jobs or components of jobs. Many of the systems attempt to assess a person's performance on actual job components or activities, such as alphabetizing file folders, sorting mail, or tuning an engine. Other systems strive to measure the testee's performance on generic tasks common to a number of jobs, involving such skills as wrist-finger speed, independent problem solving, or numerical sorting. In either case, the individual's performance is usually reported not only in terms of the specific tasks assessed, but also in terms of other occupations or activities related to those tasks.

As with all commercial products, careful selection of such systems can eliminate many of the problems associated with their use. If a system can be found that measures the performance areas being sought and if money is available for purchasing, commercial systems can provide hands-on information about the student's work habits and attitudes, potential for certain jobs, and interest in these jobs. Brolin (1978) lists ten questions to ask when considering commercial systems. These questions are particularly pertinent to the person with autism:

1. Does the system take into account expectancy to fail?
2. Does the system take into account academic limitations?
3. Does the system take into account verbal limitations?
4. Does the system take into account limited experience?
5. Does the system allow for more than one trial on tasks?

6. Does the system allow for repeated instructions and check for comprehension?

7. Does the system have face validity?

8. Does the system allow for appropriate conditions for testing, e.g., pleasant surroundings, orderly administration, and fatigue.

9. Does the system use "spaced" rather than "massed" evaluation?

10. Is the system adequately normed on handicapped individuals and the workers who are doing the various types of tasks? Have followup studies been conducted on its vocational prediction validity?

Three commercial systems are used in the Transitional Autism Program: (a) Trainee Performance Sample; (b) Wide Range Employability Sample Test; and (c) Adolescent and Adult Psychoeducational Profile. Each of these systems is described in more depth in Appendix A. Commercial systems offer a number of advantages including the following: (a) development and standardization have already occurred; (b) students may explore occupations and tasks not available in their own community; and (c) systems yield formal scores that can be compared to other groups within the state and nation. The testing conditions and tasks associated with many of these systems, however, often make them inappropriate or inaccessible for youth with autism. If a commercial system is chosen, the guidelines cited by Brolin should be carefully considered in evaluating such a system.

Self-Developed Work Samples

As noted in the preceding section, commercially developed assessment systems can represent actual jobs or job activities or they can represent generic characteristics or skills common to a number of jobs. Work samples, or performance samples, can also

be developed by a local program to reflect the type of job placements available in the local community. Local norms can also be developed so that students can be compared with the population with whom they are competing for jobs, as well as with other students in the program.

Although self-developed work samples require time to construct and validate, they are among the most useful tools for gaining information on each student. Not only can work samples be used to assess the autistic youth's ability to perform specific work tasks or use specific equipment, but they can also be used to assess such areas as work habits, stamina, and social skills. A by-product of this type of assessment is also a hands-on exposure to actual job tasks before the student enters the supported work or competitive job market.

Work samples can be defined as "simulated representation of work tasks or activities, which may or may not represent an actual job or component of a job" (Sitlington & Wimmer, 1978). Work samples can be as large or small and as general or specific as is appropriate for the program. A self-developed work sample may be an exact replica of all or part of a job that exists in a local industry employing a large number of workers, such as assembly tasks at a local factory. On the other hand, the work sample may consist of the tasks common to an occupation found in several businesses in the city, such as a dishwasher in a small restaurant. In either case, the given sample can assess the person's ability to perform a specific job or may be used to gather information on general abilities, such as eye-hand coordination, attention to task, physical stamina, or interest in

the job area. An effort should be made to gain as much information as possible from the sample--in the areas of basic work behaviors as well as general and specific vocational skills.

Work sample development can be a time-consuming process, particularly when staff are doing it for the first time. The program should identify the top priority sample to be constructed first, and also become aware of work samples developed by other programs that may be adapted or used as is. The University of Wisconsin Stout has established a Work Sample Clearinghouse to facilitate exchange of the manuals for self-developed work samples. They have also developed a format to be used by programs in developing their own work samples (Botterbusch, n.d.). This source should be consulted before undertaking such a project.

Situational Assessment

Situational assessment is the assessment technique most closely related to the target environment of the trainee. This approach involves systematically observing the individual in an actual work situation through the use of rating scales, checklists, or other behavioral observation forms. This technique can be used to gather information systematically on the student during all phases of the vocational training program, from work exploration and experience through targeted job training.

This procedure is extremely important in providing information on the basic work behaviors of the student including communication, endurance, compliance, interpersonal behavior, and

rate and accuracy. It is particularly important to observe the student in community-based settings related as closely as possible to the final target employment environment for the learner.

Two things are crucial in situational assessment. First, the observation instruments must focus on the behaviors and attitudes that the supervisor is trying to observe. Second, the instruments must allow reporting that is as objective as possible. The employer or person supervising the worker usually completes some type of observational checklist or rating scale. The supervisor from the vocational program, during periodic visits, adds further information through her ratings. In both cases, the forms used should provide for information that will help in planning and working with the student. Whether program staff develop their own forms or use existing forms, the criteria must be such that the information obtained will provide necessary and valid data on the autistic learner in the working situation. Esser (1975) describes the types of checklists and rating scales that can be used in situation assessments. Programs will often find that it is better to develop their own rating instrument than attempt to use one of the few existing scales that are available.

The Vocational Assessment Process

Before program staff can effectively gather vocational assessment information on students with autism, they must first determine the types of information that need to be gathered on the learner and the assessment techniques that will be most effective in providing this information. They must then develop a process and sequence for collecting this information throughout the program phases. As was stressed at the beginning of this chapter, collection of assessment data should run parallel to the vocational training sequence, with the vocational programming phases providing most of the assessment data, and the assessment program providing information on whether the individual is ready for the next phase of the program or whether further work in the present phase is indicated.

The actual vocational assessment process should consist of two phases: (a) initial assessment; and (b) ongoing assessment. The initial assessment phase should occur as the student enters the vocational training program. Depending upon when students exit the educational system and upon the maturity of the individual student, this could be when the student is anywhere from 13 to 16 years of age. This is the concentrated phase of assessment in which formal assessment data are collected on the learner. In addition, relevant information on the student from previous settings, work experiences, etc. is compiled and analyzed.

The initial assessment phase might include use of the following techniques: (a) interviews of parents, former teachers, and the student; (b) any appropriate paper and pencil

tests; (c) manual dexterity tests; and (d) appropriate commercial assessment instruments. The initial assessment phase should yield a set of preliminary recommendations regarding target occupational areas to explore, strengths and weaknesses related to basic work behaviors, and any existing general vocational skills. This information should be incorporated into the Individualized Educational Plan (IEP) and the initial planning of the program staff.

Although data gathered during the initial assessment is valuable in developing an initial vocational plan for the autistic learner, the ongoing assessment phase provides the most useful and realistic information. Since the ongoing assessment phase runs parallel to the ongoing vocational program for the learner, the information gathered reflects the learner's behavior in realistic work situations similar to his final target employment environment. These data also reflect the progress made by the student throughout the program. The ongoing assessment sequence consists of two components. In the first component, some of the formal assessment instruments used in the initial assessment are readministered at intervals throughout the student's program, e.g., at the end of the year or at the beginning of each subsequent year. The readministration of such formal instruments allows program staff to compare learner progress from year to year on a standardized instrument. It also provides formal data sometimes requested in reports on the student.

The second component of the ongoing assessment involves systematically collecting data on ongoing student performance in the various phases of the vocational training program. Techniques involved in this component include self-developed work samples geared to target occupations or occupational skills and situation assessment techniques, such as the use of checklists, rating scales, and observation forms. Appendix B contains some of the observation forms used in the Transitional Autism Program at Indiana University. These forms are used to systematically collect data on the student during all of the work exploration and experience phases and targeted job training phases described in the first chapter. This includes information collected during: (a) self-developed work samples in the classroom, (b) basic assembly tasks conducted in the classroom, (c) work experience in the community, and (d) targeted job training in sites located in the community or the Indiana University campus.

Specifically, the forms listed in Appendix B include: (a) a targeted behavior log on which staff can record behaviors across a number of environments, (b) a form for recording classroom data on the vocational tasks simulated in the classroom, and (c) a task analysis sheet for recording the steps involved in a specific vocational task to be trained in a community site. Appendix B also presents a sample graph of the amount of on-task time recorded for a student during an assembly task. This graph summarizes data collected over a ten month period and illustrates how ongoing data collection can be summarized to provide assessment information that can be used in planning for the student. A graph depicting packaging productivity and sorting

accuracy is included. Appendix B also presents behaviorally related data on the number of verbal cues required during a work experience of one student on a community-based site.

Integrating Assessment Results with the IEP

If the results of the vocational assessment process, both initial and ongoing, are to be effectively integrated into the vocational program, results must be continually summarized and integrated into the Individualized Education Plan (IEP) for the autistic youth. The IEP holds the key for the integration of vocational assessment with the vocational programming options available to the student. As with any assessment process, if the results of the vocational assessment are not used, then the time and efforts of both the program staff and the learner will have been wasted. In addition, if the program staff find that certain elements of the vocational assessment process fail to yield information that is useful in making programming decisions for the learners, then that element should be seriously examined.

Appendix C presents a sample of an indepth vocational assessment report on a student in the Transitional Autism Program at Indiana University; a sample IEP for a student is also included in Appendix D. Results of the ongoing assessment process should also be summarized on a regular basis to provide data on the future work experience and training sites for the learner.

CHAPTER III

TEACHING ENTRY LEVEL VOCATIONAL BEHAVIORS: IDENTIFYING INDIVIDUAL OBJECTIVES

The following curriculum is planned to provide students with vocational experience. Often, programs defined as pre-vocational offer a series of activities that are essentially developmental; this curriculum emphasizes basic functional work behaviors. The underlying assertion is that some students who are "severely autistic" (Schopler, Reichler, DeVellis, & Daly, 1980) require or can benefit from training environments that precede specific job training. While this is not true for all students with autism, the student with severe autistic behaviors and no experience in work environments is most certain to face overwhelming difficulties when beginning training for a specific job placement. Program-based and community-based sites are used to teach basic work behaviors and to gather on-going assessment information. Entry level vocational behaviors are the core of this program. Finding employment or entering a vocational training program that has employment as a goal requires consistent application of these behaviors. Mithaug and Hagmeier (1978) surveyed supervisors of fifty-six sheltered workshop programs in six states. Respondents were asked to choose items important to functioning in the sheltered work environment, then the behaviors were rank ordered according to percent of agreement. Table I lists the first part of the compiled results.

Table I

Table XII: Criterion categories in decreasing order of percentage agreement among respondents; representing the beginning of the complete list only.*

Rank	Item	Percentage
1	Be able to communicate basic needs	98
3	Move safely about shop	97
3	Participate in work environment for periods of	97
3	Work at job station continuously for	97
5	Continue to work without disruptions when	96
7	Communicate basic needs receptively by means of	95
7	Maintain proper grooming to	95
7	Learn new tasks-explained by	95
9	Communicate basic needs expressively by means of	94
12	Be absent from work no more than	93
12	Respond to instruction that requires immediate compliance in	93
12	Correct work on-task after	93
12	Not leave job station inappropriately more than	93
12	Want to work for	93
16.5	Be able to reach place of work by	91
16.5	Respond appropriately to safety signals given	91
16.5	Initiate contact with supervisor when	91
16.5	Does not display/engage in major disruptive behavior more than	91
20.5	Maintain personal hygiene by	90
20.5	Understand work routine by	90
20.5	Does not display/engage in minor disruptive behavior more than	91
20.5	Adapt to new work setting with normal levels of productivity in	90
24.5	Complete repetitive tasks with one step in (error)	88
24.5	Work alone without disruptions for 15 minute period with (contacts from supervisor)	88
24.5	Does not deviate from shop rules more than	88
24.5	Adapt to new work situation with normal levels of supervisor contacts in	88
27.5	Work in group situation and increase production when	87
27.5	Work at job station with no more ___ disruptions	
32	Be able to eat lunch independently	86
32	Be able to take care of toileting needs independently	86
32	Learn to minimum proficiency new jobs with one step in	86
32	Work alone without disruptions for 30 minute periods with (supervisor contacts)	86
32	Work alone and increase production when	86

*From Mithaug, D. E., & Hagmeier, L. D. (1978). The development of procedures to assess prevocational competencies of severely handicapped young adults. AAESPH Review, 3, 94-115. With permission of AAESPH (JASH) Review.

An examination of the rank ordered results of the Mithaug and Hagmeier survey identifies behaviors rather than skills or knowledge as crucial factors for entering sheltered employment. For programming purposes, these behaviors can be grouped into five areas of instruction.

1. Communication

   "Be able to communicate basic needs"

   "Respond appropriately to social contacts"

   "Initiate contact with supervisor"

   "Recite verbally on request...
   (full name, home address, telephone, age, name of employer, address of employer)

   "Understand work routine..."

2. Endurance and Continuous Working

   "Participate in work environment..."

   "Work at job station continuously..."

   "Be absent from work no more than..."

   "Not leave job station inappropriately..."

   "Work alone without disruptions for 15 minute period with...(contact from supervisor)"

3. Compliance

   "Respond to instructions that require immediate compliance..."

   "Move safely about shop"

   "Respond appropriately to safety signals given"

   "Does not deviate from shop rules..."

4. Negative Interpersonal Behaviors

   "Continue to work without disruptions..."

   "Does not display/engage in major disruptive behavior..."

5. Rate and Accuracy

"Adapt to new work setting with normal levels of productivity..."

"Complete repetitive tasks with one step..."

"Work in group situation and increase production..."

"Work alone and increase production..."

A vocational preparation program must also consider behaviors that are relevant to integrated, community-based environments. Wehman (1981) lists six factors necessary for success in competitive employment:

- Work proficiency (correct skill performance)
- Work rate (productivity)
- Quality
- Work perseveration (behaviors that interfere with task performance)
- Work repertoire (basic and specific skills)
- Work endurance (physical stamina, ability to stay on task)

All but one of Wehman's six factors are behaviors. These behaviors are also components of this vocational preparation curriculum and are included in the five areas of instruction previously identified. "Work proficiency", "Work rate", and "Quality" are included in the instructional area, Rate and Accuracy. "Work endurance" is one component of the instructional area, Endurance and Continuous Working. Interpersonal Behavior is the area of instruction that includes what Wehman refers to as "Work perseveration".

Wehman's "work repertoire" refers to basic or specific vocational skills. While the instructional emphasis for students with severe autistic behaviors is on basic work behaviors, skills

are also essential components of vocational training. The relationship of skills to specific types of training environments was discussed in the first chapter.

While the five areas of instruction are of equal importance, not all students need each area targeted on their Individual Educational Plans because some may have reached adequate competence in one or more areas. The emphasis placed on each area will depend on a student's current skills as assessed in formal and situational settings. This section discusses each area of instruction and gives examples of objectives that reflect differences in current skills and short term expectations. Criteria should be individualized and derived from existing data.

Communication Objectives

Initiating contact with a supervisor for assistance, completion, or basic needs is an essential skill in any work environment. Therefore, most students with autism require acquisition of this skill though targeted objectives in their program. Criteria and conditions of individualized objectives are based on a student's current communication skill level. Conditions for accomplishing objectives should include the environment, the desired behavior, and the maximum level of assistance or prompting permitted.

Communication in an environment with a high ratio of workers to supervisors requires skills which engage the attention of the supervisor without disturbing co-workers as well as following the rules of the work place such as staying at the work station. Making specific requests such as, "help please" or "bathroom

please" may have to be taught to some students. Teaching specific verbalizations can make retrieval at the appropriate time much easier for an individual with limited language ability. An example is presented below.

Example 1

Working within a 50-minute period on familiar tasks, Carl will raise his hand and say "I'm finished" when a task is completed or materials are gone with increasing independence.

Some students require augmentative communication systems. In the example below, Jake is to use manual sign as an augmentative system. In some instances, the augmentative system may be a communication board with pictures and/or written labels. Written labels may be effective as an intermediate step for verbal students who have difficulty retrieving the appropriate response or for students who are unintelligible, once communication has been initiated. In all cases, the system must be functional in that it is specifically designed to make communication in a particular vocational setting more effective.

Example 2

Working within a 70 minute period on familiar tasks, Jake will raise his hand, and manually sign "finished" when a task is completed or materials are gone with increasing independence.

Working within a 70 minute period on familiar tasks, Jake will raise his hand, manually sign "bathroom" or "help" when given an initial cue.

Developing communication in community settings requires objectives specifically suited to the environments or situations where the teaching takes place. Teaching objectives that will require generalization from the classroom environment to site specific situations are of limited effectiveness and utility.

Example 3

When busing tables in the convalescent center dining room, Kari will say, "take tray please?" before taking the residents' trays and will respond appropriately to their direction, given an initial cue.

An assessment and consultation by a Speech and Language Clinician is recommended to determine which augmentative system seems appropriate for a specific individual or if verbalizing seems the best mode for expressive communication. The clinician can train the education staff so they may develop and implement functional, meaningful communication.

Endurance and Continuous Working Objectives

Keeping on-task or working continuously, is another necessary skill for either sheltered or community work environments. The criterion level and the amount of supervision stated in the objectives are related to the individual's current abilities. In the next example, the conditions are set as a familiar task and an 80 minute work period. The criteria is 70% on task for a ten minute segment during which no verbal cues are given. The percent of on task time is measured by a time sampling technique described in the next section.

Example 4

Working within an 80 minute period on familiar tasks, Mary will perform at a rate of 70% on task during any ten minute sample without verbal cues and with periodic token reward.

The objective below illustrates programming for a student who needs work experience for eventual competitive or supported work. Continuous working is again measured by a ten minute time sample without cues and is a work behavior that is used to evaluate training and performance.

Example 5

Kari will explore community placement potential by performing specific skills in a community setting, working at 60% on task for a ten minute period without verbal cues.

The student in Example 6 is less proficient in work behaviors. The targeted behavior is remaining at a task as opposed to continuous working. The conditions given require remaining at the work station until the task is completed instead of the more abstract 80 minute time period in example 4.

Example 6

Barry will remain at his work station until a familiar task is completed with decreasing cues.

Objectives also serve as a means to document potential for future placements as well as a plan for current programming. Sheltered and competitive environments, which could be up to and including an eight hour work day, require longer work periods

than typical school programs. The transition from school to work requires scheduling longer vocational experiences. Example 7 demonstrates one way to target extended work periods in a specific way.

Example 7

Kevin will participate in the work environment for three hours with no more than one twenty minute break.

Example 8 illustrates an objective that targets a student's distractability. Vocational settings are often characterized by workers in close contact, distracting movement, and noise; therefore, activities that require close contact, prolonged attention to task, and sharing materials are programmed as preparation for such environments. Increasing independence refers to a decrease in cues from the teacher or supervisors.

Example 8

Jake will work close to two to four other students, sharing materials with no reduction of production rate and accuracy over a 50 minute period with increasing independence.

Compliance Objectives

Compliance with requests and rules is a required behavior in vocational settings and includes complying with rules concerning hazardous areas in the environment or responding to directives regarding work. Understanding must be coupled with compliance. A student cannot comply to something that he does not understand.

Too often it is assumed that an autistic student doesn't want to do something when the real issue is not knowing what is expected. Issues of compliance can be general or specific as the following examples demonstrate.

In Example 9, the first objective is suitable for developing appropriate responses to both rules and directives. In this case, the goal was to elicit a response to a familiar request with increasing independence or less cues. Operationally, the student was given a request. If he did not comply, the request was made two additional times with intervening pauses of 15 to 30 seconds, after which he was helped to comply.

Example 9

Andy will comply with familiar requests with increasing independence.

The next example illustrates an objective where the desired behavior is expressed more specifically. The student's tendency to be out-of-bounds was important enough to warrant a targeted objective aimed at behavior reduction. The ultimate criterion is independence, but progress may be measured from the current level and number of cues whether they be physical or verbal.

Example 10

Kevin will follow shop rules, specifically out-of-bounds, with increasing independence.

The compliance issue for the student in Example 11 is task initiation with the condition set including familiar repetitive tasks. The student is to complete his first repetitive task of a work period with increasing independence. Students with autism sometimes rely on others to provide cues rather than taking the initiative themselves.

Example 11

Barry will complete his first familiar repetitive task in a work period with increasing independence.

Interpersonal Behavior Objectives

Inappropriate behaviors can prevent placement in or precipitate removal from a work environment even when task performance is satisfactory. Inappropriate interpersonal behaviors may include socially annoying manners such as poor table manners or poor grooming habits as well as severely disruptive behaviors like self-injury or aggression. Often disruptive behaviors are precipitated by frustration with tasks or inability to communicate wants and needs.

In addition to IEP objectives that target interpersonal behaviors, each student should have an individualized behavior plan outlining specific interventions for each interfering behavior. The purpose of the behavior plan is to ensure consistency in interventions across environments and among all persons participating in teaching the student. (Examples in Appendix E.)

The individualized behavior plan can be more specific than the IEP in defining inappropriate interpersonal behaviors which are targeted for reduction and periodically updated as interventions are refined and as behaviors change. In Example 12, note that the behavior plan is not totally composed of behavioral contingencies and consequences. Prevention of problems through environmental structuring and effective communication are a major part of the plan. Example 12 emphasizes consistency in the intervention and in communication which is particularly effective with this student. If a problem behavior does occur, specific individualized interventions are outlined that everyone should follow.

Interventions may be both student specific as well as environment specific. Example 12 also shows how interventions differ for the workshop and less structured environments. In the workshop, the student threw or broke objects to avoid tasks. Removing her from the task would reinforce the behaviors; therefore, throwing and breaking were ignored when at work. Materials were controlled as needed to minimize damage and danger.

In the less structured settings, demands and expectations are different allowing more choice and self-direction. In these situations, a quiet sit-out removes the student from the regular routine for a short time and does not reinforce the behaviors.

Example 12

Behavior:	Throwing or breaking things
Antecedent:	Avoidance of task Enjoys sound and sensation
Intervention:	Workshop: Control materials. Ignore actively and redirect. Clean up without her seeing and without talking about it. Establish expectation that a certain number of tasks will be completed before lunch. Classroom in unstructured time and in recreation: Tell her "The rule is - things stay in place." Send to Sit-Out with use of timer she can see but cannot reach for three minutes.

Following are examples of IEP objectives targeting improvement in disruptive behaviors. Intervention for these behaviors are maintained in the behavior plan for that student. Students who rarely engage in disruptive interpersonal behaviors should have identified objectives in this area to document their absence or infrequency for future employers.

The objective in Example 13 identifies two specific interpersonal behaviors that can cause difficulty in a work environment. Specific interventions are outlined and updated in Carl's behavior plan.

Example 13

Carl will work on familiar tasks without jumping up and down or repetitive questioning with increasing independence.

In the next example, the student's disruptive behaviors varied, but making transitions was a fairly constant antecedent. Specific language, contingencies, and consequences for this objective should be outlined in the behavior plan.

Example 14

Andy will make transitions between tasks and activities with increasing independence and without displays of threatening behavior (grabbing arms, head banging, arm swinging).

Loud talking and screaming are targeted as the interpersonal behaviors to reduce in the IEP objective below. These behaviors are preceded by complex groups of antecedents and require intervention involving control of the environment, effective communication, and behavioral consequences. Treatment interventions and contingencies are contained in a separate behavioral plan for Kari.

Example 15

Working within a 90 minute period on familiar tasks, Kari will work independently without loud talking or screaming.

Rate and Accuracy Objectives

A student's performance in this area of instruction is dependent on application of work behaviors previously outlined and on specific manipulative and perceptual skills. The ability to work continuously affects the production rate of a worker. Physical or perceptual abilities and compliance to directions affect accuracy. Vocational objectives that target rate and

accuracy document both worker productivity and the effectivess of individualized procedures for increasing and maintaining productivity levels.

In the example below, the goal for Jake is to increase his rate 15% over baseline measure while maintaining 95% accuracy on four types of tasks. Jake reaches criteria on each task when he can perform at that rate 2 out of 3 consecutive trials. Familiar tasks facilitate differentiating productivity from the ability to learn new tasks.

Example 16

Working within a 50 minute work period Jake will perform familiar tasks with accuracy greater than 95% and at a rate 15% greater than baseline with periodic verbal cues and token reward.

2 of 3 times on each task

The objective in Example 17 is aimed at generalizing rate and accuracy performance into a community environment. The objective is written much like the previous objective but factors in the community environment may require training in adaptive skills specifically required by that setting.

Example 17

Sam will accurately perform 3 site specific tasks in a community vocational setting at a rate of 20% greater than initial baseline and with increasing independence.

4 of 5 times on each task

Sample Individual Educational Plans for two students with different needs are found in Appendix D.

CHAPTER IV

TEACHING ENTRY LEVEL VOCATIONAL BEHAVIORS: MANIPULATING INSTRUCTIONAL VARIABLES

After appropriate objectives have been established in each of the five areas of instruction (communication; endurance and continuous working; compliance; interpersonal behaviors; and rate and accuracy), the task of the teacher is to manipulate instructional variables as a means to teach flexibility and independence within the context of work behaviors. In this section, specific manipulations of a) environment, b) structure/routine/schedule, c) materials, and d) expectations/reinforcement in each of the five behavioral areas will be examined.

Promoting Communication

Both receptive and expressive communication skills are required in vocational settings. While expressive skills are more easily observed, a student's receptive skills affect both instructional approaches and training outcome. The objectives presented earlier were designed to develop the expressive skills necessary for appropriate initiation and maintenance of communication. Receptive skills are usually associated with learning new tasks or routines. This section will consider expressive communication skills that are both observable and trainable as vocational behaviors, as well as strategies for teachers to use to effectively communicate with students exhibiting various levels of receptive communication abilities. These strategies lay the groundwork for the manipulation of all instructional variables.

Using the Environment to Promote Efficient Communication

Environments communicate expectations. An environment for teaching vocational behaviors and skills to youth with autism should be structured in such a way that clear messages concerning routine and expectations are communicated.

Environments may also promote or inhibit the inclination to initiate communication. Environments may make communication demands that are confusing or they may reduce initiation to communicate by rendering such efforts nonreinforcing and unnecessary.

Specific suggestions for structuring the environment to promote efficient communication include:

- Devote a section of or an entire room to work. Use real work environments. Structuring specific single uses of an environment communicates the expectation that certain kinds of tasks will be performed and that certain behaviors, i.e., those leading to completion of environment appropriate tasks, will be rewarded.
- Create a separate area for taking breaks. Again, the association of particular areas with specific expectations makes communication more efficient and reduces both mental and physical confusion.
- Establish discernable work stations for individual students or for specific tasks.
- Remove replacement parts and extra materials from the work stations to promote the need to request materials and tools.

Students with autism do not usually have experience with the expectations of work. By creating a separate environment where work expectations are clear and neither in conflict nor confused with the expectations characteristic of instructional time or of unstructured time, the task of communicating those expectations is simplified.

Not all behaviors needed in work environments are task oriented. For people with autism in particular, appropriate task oriented behaviors are sometimes more easily achieved than are appropriate behaviors during breaks from the regular work routines. An environment can be structured to communicate expectations inherent during "break time". A different table or tables, modified age appropriate leisure activities, boundaries, refreshments, etc., make up a "break time" environment. Clear demarcation of the environment makes differences in expectations during work and break time more comprehensible. For example, during break the bathroom can be available without request, food can be available, or choice of activities may be permitted.

Communicating information necessary for independent movement is also facilitated by clearly establishing environmental expectations. This strategy can apply to both the school work setting and the community vocational training environment. In the school work setting students can respond to verbal directives or follow written schedules independently when directed to a given task. In the community vocational training site, materials can be used to temporarily create discernable work stations. For example, in a table-washing task, numbering tables makes the order of the job clear and makes redirections to an inadequately washed table easier for the student who can read numerals. Such labeling systems can be adjusted to reflect individual competencies.

If replacement parts, additional job materials, or necessary tools are close by, the basic communicative act of requesting materials or assistance will prove far less effective for many

students than leaving the work station to secure them. Placing materials a distance away but not out of sight will act as a visual cue which prompts some students to request needed materials. Others may need repetitive instruction in appropriate request behavior, followed by routine reminders until independence emerges.

Using Structure/Routine/Schedule to Promote Efficient Communication

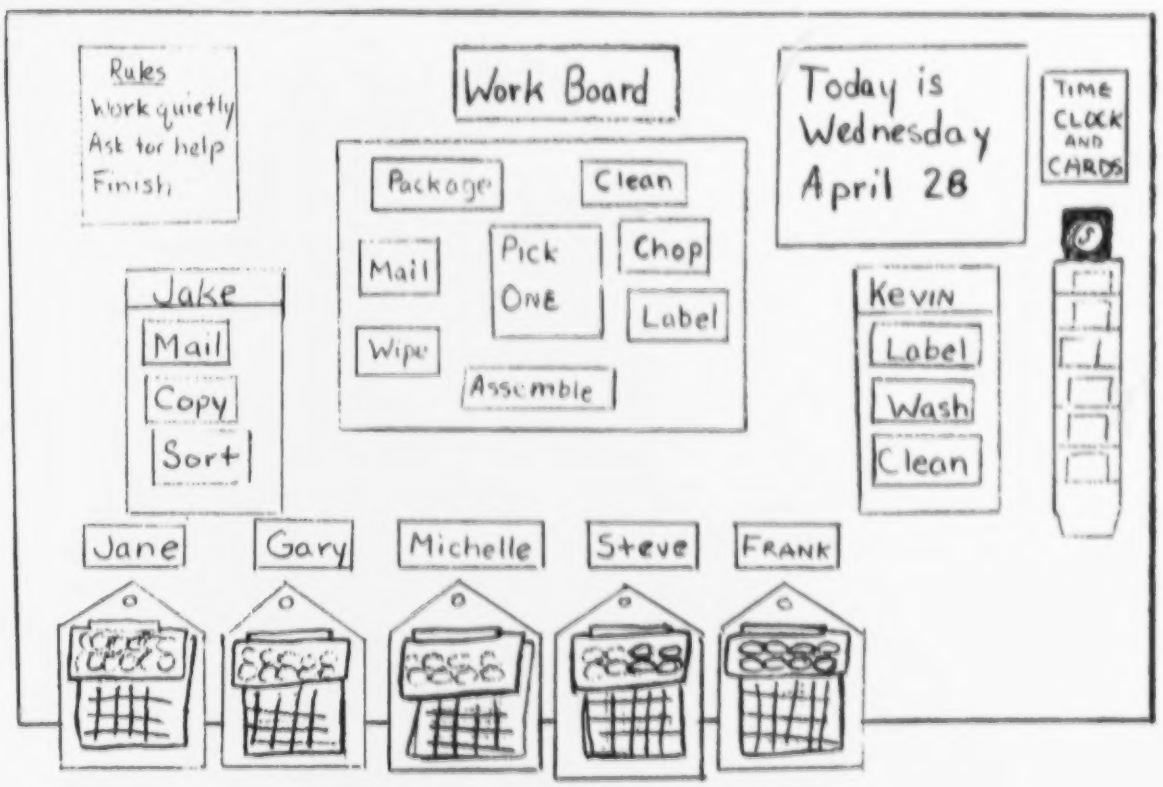
Routine characterizes most vocational environments by assigning temporal sequence to particular tasks and activities. The manner in which tasks and activities are begun, concluded, or interrupted is also prescribed by routine.

A student's independence of movement within a work environment is directly related to understanding rules, directives and expectations. A consistent routine can make it easier for a student to succeed in understanding. Necessary directives and requests are both simplified and clarified if the student already knows the temporal sequence and manner in which activities are undertaken. A routine allows a verbal shorthand to develop. For example, the directive "find your job" can represent a complex sequence of tasks involved in determining and finding the appropriate job. A consistent routine can also affect expressive communication abilities. A familiar routine can reduce the cognitive processing demands associated with initiating appropriate work related communication.

Specific suggestions for using structure/routine/schedule to promote efficient communication include:

- Communicate temporal structure through the use of visual displays that are manipulative.
- Teach situation and student specific methods of communication.

Communicating the routine of an environment to workers with autism is often difficult because temporal concepts are somtimes a problematic area. One solution is to present the temporal information in the typically stronger visual mode. For example, creation and use of a "job board" can help students to order events and expectations. The job board should use appropriate visual cues (labels, pictures, etc.), and should require students to manipulate them as part of the routine. Establishing a ritual of using the job board to find the appropriate task or activity before each work period promotes independent functioning.



Temporal information such as the sequence of tasks in the work environment can be communicated spatially through the use of a manipulative chart. The chart contains the student's name as well as removable labels for each assigned task in sequential order top to bottom. The student is taught the routine: locate the correct name, remove the first task or job card, match the card with the appropriate work station or materials, and begin the task. The routine is followed each time a new work period is begun.

Establishing appropriate work related communication requires several steps in any work environment. First, the need to communicate must be established; then the appropriate individual's attention must be engaged and the message or request delivered. Structure/routine/schedule can be manipulated to emphasize or deemphasize a problematic step in this sequence. For example, mental retrieval of an appropriate verbalization may require so much concentration from a student's processing abilities that spontaneous initiation of the communication is unlikely. A routine can be designed to reduce the cognitive demands of initiating communication and free the student to learn to recognize environmental cues that require initiation. One possible routine is to teach specific verbalizations that cover several types of situations. For example, teaching the specific verbalization "I'm finished" has application to several situations. "I'm finished" can be used for completion of a task, to request more materials, or to indicate the need for a break. The abilities of the student and the nature of the program dictate how many and which specific communication techniques are

taught and what particular environmental cues trigger them.

Using Materials to Promote Effective Communication

Many autistic students have the use of a common symbol system (labels, pictures, photographs, manual sign, etc.). These students associate symbols with objects, people, and events in their environment. Some students' systems may be limited to context specific gestures, e.g., reaching for a particular food item at mealtimes. This limited symbolic ability manifests itself in students who are considered the most severely communication handicapped.

Symbol systems may augment a primary communication system. Students who can communicate work related responses appropriately by using augmentative systems gain more independence than those who rely on staff/teacher familiarity to communicate.

Specific suggestions for using and modifying materials to promote effective communication in the work environment include:

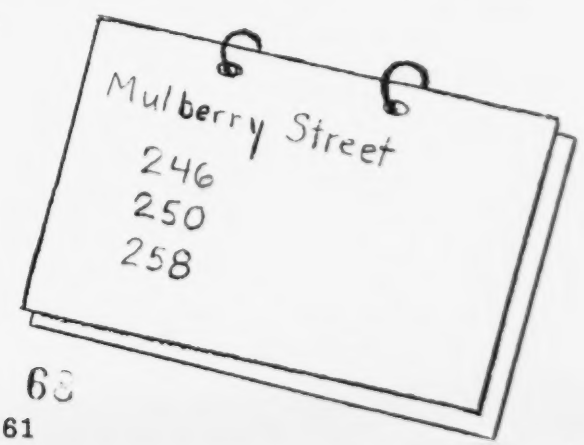
- Use "cue cards" with situation specific responses at the work station for verbal students, e.g., "I'm finished", help please," "bathroom please". (Also works as a situation specific communication board for some nonverbal students.)
- Use visual cues to help students locate the appropriate work station or materials, e.g., color coded labels, picture/photographs.
- Use charts, labels, pictures/photographs, etc. of breaktime activities and refreshments for students to use in making choices and following routines in the breaktime area.
- Use environmental labels, task charts, and pictures to facilitate communication in community vocational settings.

Verbal students who read may keep work related words or phrases on "cue cards" at their workstations and thus avoid the

need to retrieve needed language. Such "cue cards" simplify the task of initiating appropriate contact with the teacher or supervisor. Both student's and teacher's efforts can then be focused on responding to the cues in the environment that determine when to initiate contact.

Visual cues also help to communciate an appropriate breaktime routine. A chart with labels or pictures can be used to help students choose reinforcers (soda, chips, candy, etc.) and activities (music, game, sit by the window, etc.).

Materials can also be used to facilitate communication in work environments outside the classroom. In these environments, temporary labels and job or routine charts can help students gain independence. Information can be presented in the typically stronger visual mode. For example, house numbers can be sequenced on a ring to facilitate the routine of a paper route; a checklist for cleaning a bathroom can be laminated and placed on a clipboard; or pictures of items to be stocked can be taped to the shelf. "Cue cards" of situation appropriate phrases ("I'm finished" or "tray please?") can be used to facilitate expressive communication in the community work environment. These cue cards can be placed in the environment or be carried by the student (ring on belt, card in wallet).



Using Expectations/Reinforcement to Promote Communication

In a work environment, students with autism may communicate in various ways. They may communicate refusal by having a tantrum, the need for more materials by leaving the work station and searching them out, or the need to use the bathroom by becoming agitated.

These communicative acts may achieve results in the school or home environment with familiar staff or family members. These same communication strategies are inefficient with unfamiliar people and are disruptive in a normal work environment. The goal of a vocational training program is to modify and shape these acts of communicative intent into an appropriate and efficient form. Appropriate forms may include augmentative systems, e.g., manual sign, communication boards.

To be appropriate, augmentative systems must be predictable and consistent. A predictable communication strategy enables a variety of individuals to interact with the student. The student who successfully uses predictable communication strategies has a much greater chance of effectively communicating to minimally trained supervisors in a normal work environment. The development of consistent and predictable strategies is accomplished through the use of clear expectations, systematic teaching, appropriate timing, and reinforcement.

Specific suggestions for using expectations/reinforcement to promote the development of a predictable communication strategy include:

- Create the need to communicate. Control materials so that a student needs to request more materials to finish a task. Limit materials so that a student has the opportunity to communicate "finished" several times in a work period. Give the student faulty or incorrect tools that need to be replaced so the student needs to ask for help.

- Ignore inappropriate communication and redirect to task. In some cases, redirect to task, model the appropriate communication, then respond.

- Reinforce communication or attempts at appropriate communication (shaping).

In the school work environment, the teacher has the ability to create a set of expectations about work related communication. One set of expectations concerns the various environmental cues that prompt initiation of communication. Students with autism often do not attend to these cues. The teacher can provide experience in attending to cues by structuring situations which require the student to initiate communication. Some examples of structured situations that require communication include:

- Presenting an assembly task in a way that allows for one part to run out after a given number are completed, requiring the student to communicate the need for assistance or more materials to continue.

- A single step task can be presented in small amounts making it necessary for the student to communicate "finished" or the need for "more" to continue.

- A task requiring the use of a stapler or tape can be structured so that the student runs out of staples or tape and needs to communicate "more" or "help."

Ignoring inappropriate communication, either in content or form, creates a set of expectations about what types and forms of communication will produce results. In some instances, ignoring a student's inefficient or inappropriate form of communication results in appropriate revisions. Other students may require repeated training. A verbal student who finishes a task and

looks around the room to make eye contact can be given the eye contact, but expected reinforcement for task completion may be withheld until the student says, "finished".

Often, modeling the appropriate response or form is combined with ignoring and redirecting. A student who needs more materials may leave the work station to secure more. The teacher can ignore this form of communicating "more" and redirect the student back to the work station. At the work station, the appropriate form of communication for that student, e.g., verbal response, manual sign, communication board, can be modeled. The student is then reinforced for imitating the appropriate response by receiving more materials.

In initial teaching, students with few functional communication skills may need reinforcement for attempts or approximations of the appropriate form. Reinforcement may be provided after a student manually signs "eat" for a drink. If the goal is to begin to establish the concept of requesting a breaktime treat, a student who echoes or responds, "Are you finished?" can initially be given reinforcement for trying while the desired response, "I'm finished" is modeled. Even leaving the work station when the task is completed may be worthy of reinforcement as a move toward an appropriate response if the alternative response was to throw a tantrum or throw materials. In this case, positive attention and being understood are the most effective reinforcements for communication efforts.

Promoting Endurance and Continuous Working

Issues of endurance and continuous working are basic concerns of every vocational setting. Aside from negative interpersonal behaviors,, endurance and the ability to work continuously have the greatest affect on a worker's success. Components of endurance and continuous working include the worker's physical stamina and the ability to work independently.

Typical school programs for autistic students have provided one to one instruction for short periods of time. Although, this type of programming does provide intensive instruction, it does not help these students grow in endurance and independence. A program that attempts to reinforce behaviors valued in the work place must stress independent functioning that is maintained over sustained time periods.

Endurance and continuous working must be defined behaviorally. Endurance may be defined as the total time that a student functions appropriately in the work environment. This would include time on task, breaktime, bathroom, and downtime. Vocational data should include daily or weekly tallies of each student's total time in the work environment. One way to keep this data is to use a time clock and time cards. Such a procedure not only gives the teacher data on endurance, but also gives students experience with a common work routine.

Discussions of continuous working and of interventions that affect it are common in psychological and special education literature. A term often used is "on task". A definition of "on task" should be scripted for each student or task. Generally, any movement or action directly related to a task and its

completion is considered "on task".

A common and convenient form of measuring "on task" is the time sample. A time sample is a probe or sample of how often during a given time period the student is working. To take a time sample, several conditions should be met. First, since a time sample is a measure of independence, the task selected for the student should be a familiar one that requires no assistance. Second, time parameters must be set; a ten minute sample gives reliable information and is manageable for the teacher. Third, an observation interval is set. This interval represents how often during the ten minutes you will make a determination if the student is "on task" or "off task". If the interval is set at 30 seconds, the teacher observes the student at exactly 30 second intervals. The student's behavior at that moment is scored as "on task" or "off task". The results of the time sample is expressed as a ratio as follows:

$$\frac{\text{on task observations}}{\text{total observations in the time period}}$$

For example, in a ten minute sample there are twenty 30 second intervals. If the student was "on task" at the moment of observation twelve times, the "on task" ratio would be 12/20 or 60%. Time samples should be taken on a variety of tasks. Task preference and the effectiveness of interventions designed to improve "on task" behavior can be measured in this way.

Using the Environment to Promote Endurance and Continuous Working

Promoting endurance and continuous working requires an environment that provides an opportunity for independence;

however, the environment itself will not promote independence unless interactions of the teacher are consistent with the goal of independent functioning.

Specific suggestions for using the environment to promote endurance and continuous working include:

- Increase student/staff ratio.
- Provide tasks that can be done independently.
- Gradually increase the percentage of time in the work environment.

The larger the ratio of students to staff the greater the need to function independently. Work environments may reflect student/staff ratios higher than other classroom or school environments. One-to-one instruction is an effective way to teach functional academic skills or new vocational skills; however, it does not promote the level of independent functioning required in a vocational setting. In the work environment, several students may be supervised by one teacher. This requires the student to direct communication toward someone who may be neither near nor directly attending to that student.

The increase of student/staff ratio requires that students engage in and accomplish tasks independently. A supervisor who must constantly interact with or assist one student will be unaware of subtle attempts to initiate communication by others and will be unable to reinforce those important attempts. Most normal work days are eight hours in length. While school programs have other components, e.g., functional academics, leisure skills, attempts to gradually and systematically increase each student's time in the work environment should be made. This

can be done by either lengthening the work periods or increasing the number of work periods.

The same strategies are used to promote the increase of endurance and continuous working in community training environments. Occasionally there are obstacles to increasing the ratio of students to staff. When these obstacles occur, the teacher can employ intermediate steps of decreasing physical proximity and systematically reducing both strength and frequency of cues.

Using Structure/Routine/Schedule to Promote Endurance and Continuous Working

Endurance and continuous working are both affected by the type of supervision administered. Each student in the work environment may require an individualized structure/routine/schedule and a different type of supervision. Various tasks or jobs and activities, e.g., breaktime, work periods, transitions may also require specifically designed structure/routine/schedule and supervision.

Specific suggestions for using structure/routine/schedule to promote endurance and continuous working include:

- Separate job training from production.
- Designate a single person who is recognized as the supervisor by the students.
- Supervise consistently. Establish a routine that all supervisors follow.

Teaching students who are learning new tasks differs from supervising students who are working independently on familiar tasks. Learning new tasks requires that the teacher provide information as the student interacts with the task. When

supervising familiar tasks, the teacher measures accuracy and rate and reduces cues. Job related skills are best taught in one to one or small group settings, while production objectives can be addressed in larger groups. Reducing the amount of supervision requires that the students learn to appropriately initiate and direct communication as well as accept redirection from a staff person who may not be in close proximity.

While supervising groups of workers, the teacher may have to intervene in some circumstances, such as when the student is out of seat, off task, or needs assistance. Remaining at the work station and working without disruptions are required behaviors in most work environments. Students who require intervention to exhibit these behaviors should be consistently redirected to task using consistent approaches. The development of written behavior plans helps achieve consistency. Supervisors must be familiar with each student's behavior plan and its application in the work environment. Individualized lists of strategies and redirections can be compiled and posted in the work environment for reference.

SAMPLE OF WORKSHOP DIRECTIVES FOR A GROUP OF STUDENTS

Behavior	Intervention
Kevin	
1) Out of seat (wait 20 to 30 seconds)	"Kevin ___" (Say name & redirect to task in one or two words. If this doesn't work, count to 3 and physically assist.)
2) Loud vocalizing (off task in seat)	Ignore vocalizing. Redirect to task. Can use headphones with music.

Kari	
1) Out of seat (standing up looking in mirror, etc.)	Say name or "Keep working" and point.
2) Off task	"Keep working"
Mark	
1) Out of seat	"Mark finish ___", (use 3 count & physical assist on first redirection).
2) Off task	"Mark finish ___, then break."
Jim	
1) Out of seat	"Work" or "Work, bathroom later." (use signs)
2) Off task	"Work" (use sign)
Mary	
1) Out of seat	"Mary ____." (3 count & physical assist on first redirection)
2) Off task	Direct with specific words for the next step. Example, "Put spring in."
Jake	
1) Off task	"Work Jake"
2) Out of seat	"Jake" (point)
Terri	
1) Out of seat/off task	"Terri work" or "Terri."
Carol	
1) Out of seat	Point and use appropriate sign for "sit" or "wait".
2) Refusal to leave task	"Finish" (sign)

TRY TO AVOID:

- Confrontational inflection or tone in voice
- Too much verbalization
- Physical assistance
- Avoid "No", "Sit" - (give more specifics, e.g., put together, later, "do the laundry, then _____")

REMEMBER TO:

- Gain student's attention before directing.
- Give students a chance to complete routine before cueing.
- Give students space and warning before physical assistance.
- Use mininal amount of physical assistance when it is required.
- Cue as little as possible.

Using Materials to Promote Endurance and Continuous Working

Materials used in a work environment can also promote or inhibit endurance and continuous working. This applies both to the actual task materials and to materials used to provide information to students regarding their work performance. To enhance the effectiveness of materials:

- Use real materials and actual work for tasks.
- Use visual materials as a form of self monitoring of on-task performance.

Real tasks contribute to continuous working. A real task is one that has meaning as a work task. Some examples include: assembling boxes, affixing mailing labels to envelopes, and vacuuming a rug. These same types of tasks can be made "unrealistic" when presented with materials that may be used in more than one situation such as labeling scrap paper or sorting beads since these tasks may be associated with crafts or "freetime" materials.

Many workers remain at task and work more consistently when they receive regular feedback regarding performance. Verbal feedback for this purpose often interrupts on-task behavior or interferes with more purposeful uses of verbal intervention, like redirection to the specific task. Therefore, a visual system that does not interupt work should be used.

A token system is an example of a visual reinforcement and feedback system. Token systems designed for use in a work environment should be as normalized as possible. The most normalized token system is a weekly paycheck; the least normalized system employs an edible reinforcer for each appropriate movement related to task accomplishment.

One successful token system involves the use of a clipboard containing a template on which pennies are placed. The supervisor circulates in the environment placing pennies on each student's template for specific, individualized behaviors. In this manner, the supervisor can give students visual feedback for appropriate work performance or behavior without verbalization.

Another form of a visual self monitoring material is the checklist. A student who is cleaning a motel room can carry a laminated checklist. As each component of a task is completed, the student uses a crayon to cross it off. As a general rule the checklist may be more appropriate in less restrictive work environments.

Using Expectation/Reinforcement to Promote Endurance and Continuous Working

Adolescents with autism often exhibit inconsistent reinforcer preferences, and the strength of preferred reinforcers varies widely from day to day. On the other hand, meeting understood expectations and following routines are often more effective as reinforcers than extrinsic items added to the situation. For some individuals, the most reinforcing phenomena is their own internal stimuli which adds to the difficulty of setting up a consistent cause and effect relationship between behavior and reinforcement. Endurance and continuous working imply independent functioning.

Measuring endurance or on-task behavior of a student who is being prompted does little more than measure the amount of cueing or assistance given. Therefore, interventions using expectation/reinforcement must be constructed so there is minimal interference with independence in the tasks.

A specific use of reinforcement/expectation to increase endurance and continuous working is to reinforce continuous working or staying on-task in a non-interactive manner. For example, a student working independently is no longer doing so if the supervisor is interacting when reinforcing for continuous working. There are methods, however, of setting understandable contingencies for continuous working without interacting with or prompting the student. One way to make a contingency for continuous working understandable and non-interactive is to use knowledge of results. Imagine a student who is folding towels in a commercial laundry. As a goal, the supervisor has established

70% on task for a ten minute unprompted sample. A timer can be set to ring every 30 seconds. When the bell rings, the supervisor makes the determination of on or off-task. The result is communicated to the student visually by a sticker, penny on a template, etc. The student is aware that each time the bell rings the supervisor will give the token if the student is working. The student also knows that, in this case, seven tokens are required to receive the preferred reinforcer. A token system such as this can gradually be expanded to longer periods with fewer samples. In this manner, working independently while on-task can be measured and rewarded while extrinsic reinforcers are gradually faded.

Many work settings teach students to use hand held counters to record their productivity. Receiving reinforcement or being able to get reinforcement based on this self monitoring can be taught.

Promoting Compliance

Compliance is required in virtually all work environments. In addition to compliance, the matter of choice should be considered. Work environments and tasks differ in the emphasis given to compliance or choice. For example, busing and washing dining room tables in a cafeteria allows more choice and demands less compliance in task sequence and method of completing tasks than assembling a heart catheter.

Training in compliance should be combined with training in choice. Tasks which require choice and tasks which require compliance should both be included in every student's program.

Each work environment should require both choice and compliance.

Using the Environment to Promote Compliance

The environment influences choice and compliance by clearly delineating what falls into these areas. Physical design of the environment helps communicate to the student which circumstances permit choice and which require compliance. Specific manipulations of the environment to promote compliance and choice include:

- Marking areas clearly that are hazardous or "out of bounds."
- Identifying the parameters of choice and compliance.

Safety concerns necessitate immediate compliance with restrictions regarding hazardous areas. Precise demarcation of these areas makes the expectations clearer to the student. In many environments there are places that present no danger but are still restricted, e.g., food area, office. These areas should also be clearly marked.

In a previous section, "Manipulating the Environment to Promote Effective Communication", the separation of the work environment from the non-work environment was discussed. Areas of compliance and areas of choice should also be separated. For example, the breaktime area can include choice of refreshments and activities while the work area requires compliance in task performance. The work environment can also be structured to give students the choice of tasks prior to requiring compliance in task performance. For example, the area of choice can be a "job board" where available tasks are identified. When the student reaches the work station, compliance in task performance on the

chosen task is expected and reinforced.

Using Structure/Routine/Schedule to Promote Compliance

Promoting compliance through the use of structure and routine should not be considered separately from the issue of choice. Structure and routine are ways in which issues of choice and issues of compliance are established. Structure and routines in the work environment help students distinguish between matters of choice and compliance by allowing them to experience both in a regular and consistent manner. Specific suggestions for using structure/routine/schedule to promote compliance and choice include:

- Using a consistent strategy for intervening in instances of non-compliance.
- Using a consistent routine for presenting choice.

In most work environments there are some issues that do not involve choice. For example, the rule "remain at the work station until the end of the required work period, unless permission to leave has been granted", defines an expectation that becomes an issue of compliance. Each student's behavior plan should have interventions for non-compliance with rules and regulations specifically outlined so that all staff handle the behavior in a consistent way.

Example

Behavior:	Non-compliance to transitions.
Antecedents:	Mark is bored or unchallenged. Mark is making a difficult transition. Mark doesn't understand and is slow to respond.

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Example

Behavior:	Non-compliance to transitions.
Antecedents:	Mark is bored or unchallenged. Mark is making a difficult transition. Mark doesn't understand and is slow to respond.

Intervention:	Use verbal and written communication to tell Mark what is expected of him in two minutes. Walk away after setting timer for two minutes. Go back after two minutes and tell him it is time. Redirect no more than twice. If he doesn't come, say, "Come work", or "I'll help you 1, 2, 3." If he does come on his own, give him pennies or tokens to buy music, food, juice.

Established routine and consistent language also help in defining areas of choice. For example, written or pictured choices presented on cards or a chart with the direction "pick one" can help the student realize that a choice can be made. This routine can facilitate choice making in all environments. Routine allows expectations about choice to remain constant and familiar in the workshop, cafeteria, or home.

Using Materials to Promote Compliance

Materials can both aid in clarifying expectations of compliance as well as in presenting choice. Specific suggestions for using materials to promote compliance include:

- Using written or pictured cues and timers when a student has difficulties with transitions.
- Using notecards and/or charts when presenting choice.

Transitions from task to task or environment to environment are often difficult for students with autism. Problems may arise from the slow mental processing of the request or from uncertainty about either the environment or the task. Such confusion often manifests itself as non-compliance.

Notecards with written or pictured cues focus attention, extend processing time and aid visual information to the request. For example, it is time for Judy to go from the classroom area to

the work area. Rudy could be directed by saying, "Rudy, workshop in two minutes." A written card "workshop in 2 minutes" could be handed to Rudy along with the verbal direction. Rudy has now been given time to process the request (two minutes) and has a visual reminder of the specific request.

Rudy may require additional help in complying with the transition direction. A kitchen timer could be used to indicate to Rudy that two minutes had elapsed. In that case, the timer would have been set for two minutes when the original request was made. When the timer indicates that two minutes have passed by ringing or buzzing, Rudy is ready to be directed to the workshop. ("Rudy, time for workshop.") If Rudy still does not make the transition, then a routine for intervening is used such as the three count then physical assist.

Materials play an important part in the use of a routine for presenting choice. Pointing to a chart or manipulating notecards facilitates making choices in much the same way as when used for matters of compliance. Notecards and charts allow processing time and present the choice in the typically stronger visual mode. For example, at first, a student may require tangible materials as visual cues offering choices of refreshments or activities during the breaktime routine. As choice is mastered at this level, the choices for refreshments could be pictured or written on notecards taped to the table. The student can point to and/or verbalize the preferred refreshment.

Another example of choice is a bulletin board with a chart labeled "pick one". The chart has two notecards attached, "radio" and "window". The choice is made by removing one of the

cards and attaching it to either the window or the radio and engaging in that activity. Choices of tasks, sequences of activities, or recreation alternatives can often be more clearly presented by using tangible materials as visual cues. Remember that students with less well-developed symbol systems can often begin to make appropriate choices by using the actual item.

Using Expectation/Reinforcement to Promote Compliance

In previous sections, compliance and choice have been considered as complimentary issues of work or vocational behavior. Expectations and reinforcement are also complimentary issues, especially in the areas of choice and compliance. Some specific ways to promote these issues include:

- Individualizing expectations of compliance.
- Reinforcing desired behavior.
- Using "forced choice" to teach the concept of choice.

Students exhibit different degrees of adjustment in vocational behavior due, in part, to their experiences with various expectations commonly found in work settings. For students with little previous experience, expectations in a work environment must initially guarantee success. For example, a student who has had little or no experience working independently could have difficulty staying at the work station, working continuously, and working accurately. The initial or beginning expectation would be for the student to remain at the work station with a minimum amount of supervision. When this expectation is met consistently, the focus of the training can progress to working continuously, working accurately, and

gradually developing a wider repertoire of tasks over time.

Individualizing expectations of compliance also requires individualizing interventions for non-compliance. As the following examples illustrate, interventions for non-compliance can vary depending on the needs of the student.

Example:

Student A

Behaviors:	Slow transitions, non compliance
Antecedents:	Avoidance
Intervention:	Give her choice: "Would you like to wash now or in two-five minutes?" Set timer. Come back when timer goes off. Wait to see if she moves. Then say "It is time to wash <u>now</u>." If she doesn't move in 15-20 seconds, "I'll count to three and then help." If have to count to three show fingers while counting, then help.

Student B

Behaviors:	Refusal to move and/or shoving
Antecedents:	'His mind set' on a routine
Intervention:	Let him know expectation. Model, "Move, please". Give him warnings, e.g., "In three minutes we are going to _____", "In one minute, _____". Give him as much information about his routine as possible. Expect him to participate. Use count (1,2,3...) and make sure you can carry it through.

Student C

Behavior:	Leaving activities/doing something else or refusal to follow direction
Antecedents:	Unclear expectations, bored, has something else on her mind.
Intervention:	Give clear expectations (use picture of clock, tell her amount of work); reinforce staying on task. When she verbally tells you what she wants, permit this when possible or tell her first _____, then <u>what she wants</u>.

These examples are from individualized behavior plans. Interventions for individual students, like expectations, should progress toward normalization. For example, frequency of redirections can be gradually reduced; physical intervention should be faded, then eliminated, as the student progresses.

Individualizing expectations requires careful planning of reinforcements. Reinforcement strategies should increase the desired behavior. In the example on page 79 regarding individualizing expectations, the student was to begin by staying at the work station. In this case, the reinforcement was given specifically for staying at the task. The reinforcement addresses neither continuous working nor accuracy. When several students are in a work environment this individual may receive reinforcement for "doing nothing" as long as the expectation of remaining at the work station is met. When the student has learned to demonstrate this behavior, the expectations and reinforcement can change to continuous and accurate working.

Expectations and reinforcement also play major roles in learning to make choices. Students with little or no experience in making appropriate choices have a difficult time when presented with choices of items and activities. For example, a student without choice-making skills may wander about in a convenience store looking at or handling various items but unable to choose one. Without training and experience in making choices, the choice of a breaktime refreshment, activity, or work task will be difficult.

The concept of "forced choice" applies expectation/reinforcement to the training of choicemaking skills. A choice is

presented in one or more of a variety of ways: verbal, with labels, actual item, or picture. The student is expected to make a choice. The expectation is that the item, activity, or task is exclusive. Neither changing the choice nor refusal to choose is permitted. For example, a student chooses candy instead of chips for breaktime using the actual items. The student actually preferred the chips. When the attempt to get the chips is made, the response is "you picked candy; chips later". The expectation is to follow through on the original choice, thus teaching natural consequences of choicemaking. The reinforcement is automatic when the genuinely preferred item or activity is chosen.

Promoting Appropriate Interpersonal Behaviors

Interpersonal behaviors are often determining factors in success or longevity of a vocational placement. This section concentrates on typical problematic behaviors. Behaviors vary greatly in their resulting disruption of the work setting. Work settings also vary in their tolerance of mildly negative behaviors. For example, grooming habits or self stimulating verbalizations may or may not be a problem depending on the type of work, type of environment, or attitude of the supervisors.

Aggression, screaming, self injury, and frequent "out of bounds", e.g., restricted areas, will be disruptive in all work environments. Interpersonal behaviors that cause major disruptions must be given priority. Many students will exhibit more than one potentially disruptive behavior. For example, a student may remove his shoes while working. The same student may

also scream periodically. Intervening to reduce the frequency of both behaviors could make matters worse. The preferred strategy would be to define a plan of intervention for the more disruptive behavior of screaming and bring it under control before setting a consequence for the less disruptive behavior of removing shoes. The attempt to intervene on too many behaviors has the tendency to confuse the student with seemingly conflicting expectations.

Most problematic interpersonal behaviors are exhibited across environments. Individual behavior plans discussed earlier outline interventions, consequences, and other considerations in all environments. (Examples in Appendix E.) For some behaviors, the intervention may be the same for work and non-work environments. For other behaviors and other students, the interventions used in the work and non-work environments may be quite different. This section will consider only the reduction of typically disruptive behaviors in the work environment.

When manipulating the instructional variables to reduce the frequency and severity of disruptive interpersonal behaviors, the first step is to determine what factors seem to affect the behavior in question. The following questions should uncover conditions consistently related to interpersonal behaviors.

1. Does the behavior occur more or less frequently in a particular environment?
2. Does the behavior occur at a particular time or times?
3. Does the behavior occur in a particular type of situation or have a particular antecedent?

Question 1 explores the relative frequency of a behavior in different environments. A marked increase in frequency in the

work environment indicates a high likelihood that the behavior is related to that environment and its associated expectations. Question 2 explores possible temporal factors that may or may not be associated solely or predominantly with the work environment. For example, a student cleaning motel rooms in a community vocational setting may become agitated and exhibit running and pacing behaviors, at a consistent time each day. Does the student exhibit this behavior at approximately the same time of day when in a different environment, like home, group home, or store?

Question 3 attempts to identify a relationship between a specific situational antecedent and a behavior. Does the behavior occur when working independently, when given verbal directions, or when bathing? This question, like the previous two, requires accurate data collecting for each occurrence of the behavior. A form for recording these behaviors is located in Appendix B.

When filled out completely, the target behavior form answers the three questions concerning environment, time, and antecedent mentioned earlier. This information can be stored and analyzed for environmental, temporal, and situational influences that become apparent when reviewing the occurrence of negative interpersonal behaviors over time.

When numerous students and behaviors are to be tracked, a microcomputer and a modified commercially available data base management system can be quite helpful. The Developmental Training Center has developed such a system with forms and information about it in Apperdix B.

Specific suggestions for manipulating instructional variables to reduce the frequency and severity of targeted behaviors will be difficult to make since they will be dependent on the systematic analysis of the records for each occurrence of the behavior. The following sections will serve as suggestions from which to formulate situation and individual specific interventions.

Using the Environment to Reduce the Frequency of Targeted Interpersonal Behaviors

The work environment may affect the frequency and severity of interpersonal behaviors through clarity and consistency of expectations or external stimuli. Following are specific suggestions for manipulating the environment to reduce the frequency or severity of targeted interpersonal behaviors.

- Systematically analyze environmental stimuli occuring at the same time as targeted interpersonal behaviors.
- Be consistent and clear with environmental expectations.

The student should know how to clock in, know where to look for his assignment, know how to find his work station, and know what to do with the materials at the station. The order of the work area or community site and the availability of the materials help the student know what is expected of him. Whether a student can work directly across from others doing the same job, can work beside others in an assembly line task, or needs to work in a quieter atmosphere should be assessed. Do music, mirrors, a traffic area, loud talking, fans, or heavy machinery distract or stimulate the student? Are the areas clearly delineated so the student understands the parameters of his work station? Does he also understand the areas permissible for activities and when it

is time for break? The rules and regulations of the work environment can be defined by printed or pictured rules beside the designated areas as reminders.

Using Structure/Routine/Schedule to Reduce the Frequency and Severity of Targeted Interpersonal Behaviors

Using structure/routine/schedule as a means to reduce frequency and severity of negative interpersonal behaviors requires special attention to temporal and situational or antecedent information about those behaviors. Some specific examples of how structure/routine/schedule may be used to affect negative interpersonal behaviors include:

- Changing a student's schedule to avoid problem times or situations.
- Individualizing routines and schedules.

At times it is advisable to change a student's schedule to avoid a problem that is the result of the time of day or sequencing of activities. For example, a student who has difficulty and tends to become agitated during small group academic sessions first period in the morning could have work periods moved to the beginning of the day followed by an academic session. In a public school setting, some students may be more likely to perform at a different level following particular activities, such as after the vigorous activity of a physical education class.

Another condition that may require a temporary change in a student's schedule is student dynamics. It may be necessary to schedule work activities to keep two students in separate environments if they have developed a pattern of agitating one

another. Making a schedule change is not the final step in either described incidence. A program should be implemented to help the student overcome or cope with the time specific or person specific difficulty.

Subtle differences in the routine for directing or redirecting a student in the work environment may also reduce the frequency and severity of negative interpersonal behaviors. For example, a student who exhibits frequent out of seat behavior and is difficult to redirect back to task may become aggressive with constant redirection. Allowing this student a brief time to pace before beginning to redirect him may reduce the aggression and the number of out of seats.

A routine for redirection could also be changed because of a student dynamics problem. Suppose student A has a tendency to scream when redirected. Student B in the same work environment cannot tolerate this student's screams and often becomes agitated and aggressive. The routine for redirecting student A may be changed to include quietly warning student B by rehearsing alternatives, e.g., "A screams, B go to classroom" or "A screams, B put hands over ears", before giving the redirection to student A.

Task directions that are effective for most students may not be for a particular individual and may even cause frustration. For example, a student washing tables is having difficulty wringing out the sponge before washing the table. Previously, students had been successfully taught to wring the sponge dry by squeezing it 3 times as they counted, "one, two, three". This student understood the expectation as squeezing the sponge three times without any consideration of making it dry. He was

constantly redirected to repeat the step of wringing the sponge. This redirection caused anxiety and occasionally resulted in a tantrum. The routine for the task was changed to "make it dry, no water on the floor." The student did understand the expectation communicated in this manner. Reduced redirections resulted in decreases in anxiety, frustration, and tantrum behavior.

Using Materials to Reduce the Frequency and Severity of Negative Interpersonal Behaviors

In previous sections, suggestions for using materials to communicate expectations, sequence events, promote choice, etc., were given. Using materials to augment communication can also help reduce the frequency and severity of targeted interpersonal behaviors. Materials are also used as interventions when interpersonal behaviors are the result of individual sensory or perceptual problems.

Again, specific interventions should follow from systematic analysis of the targeted behaviors. However, here are some examples of how materials have been used to facilitate communication and to intervene using the senses in order to reduce the frequency and severity of targeted interpersonal behaviors.

- Practice a written or pictured rehearsal of positive behaviors that are opposite from negative behavior.
- Use tokens (chips, coins, checks, etc.) as a means of communicating performance.
- Modify the perceptual stimuli surrounding students.

A laminated card depicting acceptable behaviors incompatible with the targeted negative behaviors can be displayed at a

student's work station. For example, Keri often vocalizes loudly while working. When Keri sits down to begin a task, the supervisor can draw her attention to the card and rehearse the incompatible behaviors, e.g., "work quietly; stay at work". Materials are also used to communicate evaluation of performance. If a student leaves the work station frequently, an intervention involving a reward for remaining at the work station could be implemented. Tokens are then used to give the student feedback. A timer is set for 5 minutes. If the student remains at the work station the entire 5 minutes, a check is placed on a card. If at the end of the 30 minute work period the student has five checks, a reinforcer is given. In this example, the student is given regular, periodic feedback visually through materials.

Students with autism occasionally exhibit hyper-sensitive reactions to sensory stimuli. The actual senses may not be especially acute, but for some reason, particular noises or light conditions may make a student more distractable, anxious, or aggressive. Therefore, controlling materials and environment may be an important part of an intervention plan. For example, a student who is made anxious by the ambient noise level in a work environment may perform better and exhibit less negative behavior when using earplugs or listening to preferred music or sounds on a personal tape player. The tape player may also be an effective way to control interfering verbal self stimulation while in the work environment. In this case, the tape interferes with the internal pattern of self stimulation instead of masking or modifying the external environment.

Using Reinforcement/Expectation to Reduce the Frequency and Severity of Targeted Interpersonal Behaviors

Usually behaviors are goal oriented. Through the kind of systematic analysis discussed in the previous sections, the goal of a particular behavior can often be identified. Recognition of the goal of a behavior allows the teacher to set an appropriate expectation. Successful achievement of a goal through the use of a disruptive interpersonal behavior reinforces that behavior. Understanding and promoting the achievement of the same goal through appropriate means is the best use of reinforcement to reduce the frequency and severity of a targeted interpersonal behavior. Extrinsic reinforcement is sometimes necessary to reduce targeted interpersonal behavior. Once again, keep in mind that sometimes people with autism have inconsistent reinforcer preferences, reinforcer strengths, and a tenuous relationship between external reinforcement and behavior. Following are suggestions for effectively using reinforcement/expectations to reduce negative interpersonal behavior.

- Ignore/redirect inappropriate or disruptive behavior while modeling appropriate behavior.
- Reinforce and pay attention to appropriate behavior.
- Use unnatural consequences sparingly and only if a long term plan has been developed.

When possible, ignore a negative interpersonal behavior and redirect to an appropriate activity. Ignoring the behavior removes the reinforcement of achieving an outcome through that behavior. If the goal of that particular behavior is known, the redirection can include a verbal direction or model of the appropriate means to achieve the desired ends. For example, a

student who has run out of work materials leaves the work station and begins to search the work environment for more. When redirected back to her work station, the student is mildly aggressive, e.g., pinches. Unless it escalates, the pinching can be ignored. The student can return to the work station where the appropriate behavior, like raising hand or signing "want", can be modeled and the goal of getting more materials accomplished. The behavior is ignored; the student is taught.

Another common form of redirection is instructing to "use words". A student leaves the work station and begins to pace anxiously and to flap his arms excitedly. The recorded data indicates this behavior has many possible antecedents and goals. The teacher can approach the student and say "use words". If the student gives an appropriate response, the teacher should make efforts to honor it. The student may say "finished" indicating the desire to stop working or say "motel", indicating that he wants information about when he goes to clean the motel. As the student progresses, responses like "lunch first, then motel" or "finish at 11:30" can be used, but initially, the reinforcement of communicating appropriately should be reinforced by action or information.

In some cases, behaviors and circumstances may require planned consequences. These interventions may include overcorrection, sit-out, or removal. Information on these interventions can be found in professional journals and will not be addressed here. These interventions should be used only when ignore/redirect and reinforcement for positive behavior has proved ineffective or the behavior is such that it requires an

immediate intervention to insure the safety of students and staff. Also, a plan containing the specifics of the intervention, the time frame for its use, and other special considerations should be written and distributed to parents and staff. See Appendix E for sample behavior plans.

Promoting Rate and Accuracy

Both work rate and accuracy are dependent on the exhibition of efficient work behaviors in areas of communication, endurance and continuous working, compliance, and interpersonal behavior. Two other factors that have important roles are physical capabilities and reinforcement. Students with physical or perceptual impairments that slow the productivity rate or reduce accuracy on a given task can sometimes overcome these difficulties with adaptation of materials discussed in the following section. Reinforcing increased accuracy and work rate will also be discussed.

Using the Environment to Promote Increasing Rate and Accuracy

In general, manipulation of the environment to promote exhibition of efficient work behaviors promotes increased rate and accuracy. Specific suggestions in previous sections on manipulation of the environment are applicable. These include factors such as the placement of materials, tables and chairs, workers, and supplies as well as noise, light, and movement issues.

Using Structure/Routine/Schedule to Promote Increasing Rate and Accuracy

Specific strategies previously suggested affect rate and accuracy. Suggestions in "Using Structure/Routine/Schedule to

Promote Endurance and Continuous Working" are especially relevant. In addition, there is one specific suggestion for structuring tasks to promote increasing rate and accuracy:

- Structure tasks in as few steps as possible.

People with autism often exhibit difficulty both in comprehending and in responding appropriately to multi-step directions. Often, a direction with as few as two steps proves incomprehensible. Careful analysis of a task may indicate a way to reduce the number of separate steps. For example, the Wide Range Employability Sample Test (Jastak & Jastak, 1980) employs a subtest that involves a multi-step task for folding, gluing, and affixing a sticker to a piece of paper. The sequence of suggested directions for Sample 1, Subtest B can be analyzed to achieve the desired outcome, that the sample is done correctly, by reducing the number of discrete steps. The training directives could be changed as follows:

- Put paper in jig and fold bottom up--Say, "Fold bottom."
- Put a small amount of glue on the upper left corner--Say, "Glue".
- Fold top down--Say, "Fold top."
- Put colored tab in appropriate place--Say, "Sticker."
- Remove paper from jig and place in envelope with colored tab--Say, "Envelope."

The directions for each step were shortened when language describing concepts or locations was replaced by demonstration or modeling of those actions. Once discrete steps have been reduced and confusing language replaced by demonstration or a non-verbal cue, a written direction may be added for students with the appropriate sight vocabulary. For example, as a cue for proper

sequencing of steps, a student could have a notecard at the work station that reads:

FOLD BOTTOM
GLUE
FOLD TOP
STICKER
ENVELOPE

Using Materials to Promote Increasing Rate and Accuracy

When students with autism learn to do a task, they are usually accurate. Accuracy has to be taught as an intricate part of the job. They will perform the job as they are taught. Teaching the concept of increased rate is usually much more difficult because these same students are not competitive and have a lack of the relationship of the passing of time to production. Some techniques to increase rate and productivity include:

- Individualized task analysis to increase speed with special emphasis on materials.
- Reinforcing greater productivity.

Busing tables in the nursing home was made more efficient by teaching a student to simultaneously place two glasses on the tray rather than one. Teaching another student to move the cart as she progressed from table to table made her able to clear more tables in the same amount of time. Using jigs or boxes for placement of finished products allows the teachers to reinforce by amounts that are finished in a given time period. Finishing one box of 10 gains the student 10 tokens or any set number; finishing two boxes gains twice as many. A variation of this is that completing more than 25 gains the student a bonus reinforcer. The amount required for the bonus can change.

Using Reinforcement/Expectation to Promote Increased Rate and Accuracy

Reinforcement of abstract behaviors, such as working faster, is especially complicated when teaching students with autism. Experience has shown that a person with autism often demonstrates a tenuous relationship between preferred items or activities, and things that will work to reinforce particular behaviors. As with interventions, reinforcers that are outside of the "normal" range should be used cautiously.

For promoting compliance, meeting expectations acted as a reinforcer. The same is also true for increasing rate and accuracy. Meeting the expectation of "finishing" a task and being correct often plays as large or larger a part in increasing rate and accuracy than an external reinforcer. Specific

suggestions for using reinforcement/expectation to promote increased rate and accuracy include:

- Using "targeted amounts" with inexperienced workers.
- Providing a variety of reinforcers from which to choose and communicate the contingencies clearly.

When first encountering work environment expectations, inexperienced students may have difficulty with understanding, and thus, meeting those expectations. The concept of working for a given period of time may be especially troublesome since temporal perception appears particularly difficult for people with autism. One way to simplify this expectation is to require a given number of units to be completed before reinforcement or breaktime. Methods for presenting a "target amount" may vary according to the student. For example, one student may be presented with a given number of assemblies for completion with the expectation that the targeted amount be reached before a break is allowed. A variation to this approach may require the student to complete a set task before participating in breaktime reinforcement and activities. If the target amount or task is not completed, the student remains at the work station. Work materials may be removed but the student does not participate in the breaktime activities and a different task is then chosen at the beginning of the next work period. A different way to present the expectation is to require the student to work through the break and receive a different "target amount" for this next period. The second situation is not as clear to the student.

The concept of "target amounts" to increase rate can also be used in community vocational sites. A student who is washing

dishes in a restaurant can be given a target amount of trays to put through the washer. The use of a counter may be added to the routine where the student is taught to push the counter each time a tray is put in the washer. The student reads the counter to determine when the required number of trays has been washed.

Traditionally, special education classrooms have used free time, puzzles and games, and supplemental outdoor activities for reinforcing behaviors. When students enter post-school work environments, reinforcers are suddenly replaced with typical work environment, breaktime refreshments, and activities. Reinforcers in work environments are typically food items and socializing and usually involve making choices. Using typical food items and allowing for choice among those items facilitates transition from school to work and provides information about a student's reinforcer preference. Many students with autism will need the "social" part of the break to have some structure and routine if it is to be reinforcing.

A most difficult issue in using reinforcers to promote increased work rates is communicating the contingency clearly. For example, an attempt is made to increase a student's rate when clearing dining room tables. A timer is set and the direction "finish before the bell" is given. On the surface, this appears to be a clear and simple approach to increasing the student's rate. In practice, you have a student clearing tables when a bell rings at an arbitrary time. Immediately before the bell, the student is working with an expectation of reward. Immediately after the bell, the student is not rewarded. To the

student the reality of the situation is that on some days rewards are given and on other days they are not. If he does not understand temporal concepts this creates confusion, uncertainty, and negative behavior. Such consequences may be avoided by quantifying the expectation. If a reward is contingent upon the number of trays removed, expectations are made more concrete than using temporal expectations. The directive would be, "Pick up fifteen trays, then vending machine." In this case, you are relying on the strength of the reinforcer to promote the increased rate.

Summary

Chapter three and four have concentrated on the formulation of objectives that focus on efficient work behaviors and the procedures for teaching these behaviors. Because skills associated with work environments are limitless and will change from job to job, a curriculum that emphasizes self management of efficient work behaviors required across environments has optimum potential for generalization. These work behaviors become the core of the student's Individual Educational Plan. The teacher's task is to promote the application of efficient work behaviors consistently over a variety of tasks in a number of environments.

Students with autism require particular attention to clearly defined and consistently applied procedures and expectations. Manipulation of instructional variables constitutes the individualization of vocational training. The manipulations outlined in this chapter are designed to promote and reinforce increasing independence and flexibility.

The secondary school years are the time the student should have the opportunity to learn work behaviors in as many real work situations as possible so that as an adult he will have the opportunity to participate in further training for supported or competitive work, be knowledgeable regarding opportunities for work, and be able to demonstrate preferences. The ideas and methods outlined in this chapter must be individualized to meet the needs of each student depending on strengths, behaviors, and interests. Every student with autism should have the opportunity to participate in a vocational training program which promotes efficient work behaviors and leads towards employment.

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APPENDIX A

Summary of Formal Assessment Instruments

SUMMARY OF FORMAL VOCATIONAL ASSESSMENT INSTRUMENTS AND THEIR USE WITH YOUTH WHO EXHIBIT SEVERE AUTISTIC BEHAVIOR

by

Patricia L. Sitlington, Ph.D.
Mary Marlowe, M.A.
Barbara Stork, M.A.

The following formal vocational assessment instruments have been administered to adolescents participating in the Transitional Autism Program at the Developmental Training Center, Indiana University, Bloomington, Indiana. The following paragraphs contain a brief description of each instrument followed by comments on the strengths and weaknesses found by the program staff in administering the instrument to autistic youth, and suggested modifications in using each instrument with this population. The administration of formal instruments constitutes only one part of the assessment process. A structured series of informal observations tied to the vocational programming sequence has also been implemented. This listing of assessment instruments is not meant to be all inclusive. There are a number of other formal vocational assessment instruments available. These particular instruments were chosen because they provided the information needed to make the required programming decisions and because they were among the most appropriate for the autistic students involved in the Transitional Autism Program.

Manual Dexterity Tests

Two manual dexterity tests are used in the program; one of these specifically measures spatial relationships, while the other measures arm-hand dexterity. Programs interested in obtaining more information on manual dexterity may want to purchase a test such as the Bennett Hand Tool (Psychological Corporation), which measures tool usage, or the Crawford Small Parts (Psychological Corporation), which measures finger dexterity and eye hand coordination using small tools. Although students with severe autistic behavior and moderate to severe retardation seldom score within the time or error tables, these tests have proved useful in observing such areas as ability to follow directions, physical stamina, spatial concepts, reaction to frustration, and basic approach to a task. Although the purpose of these tests is to compare student functioning with that of non-handicapped adults, separate norm tables can be developed for past and current students in a given program.

Minnesota Rate of Manipulation Test
American Guidance Service
Publishers Building
Circle Pines, MN 55014

This instrument assesses arm-hand dexterity and the ability to follow verbal directions and demonstration. Colored plastic or wooden discs are manipulated through several different procedures: placing, displacing, turning, one-hand turning, and two-hand turning.

Strengths

This test is useful for autistic students in helping to assess their abilities on a repetitive task, their directionality, ability to sit still and stay on task, and their reaction to frustration. This test requires that each task be performed four times. The examiner can, therefore, observe how quickly students grasp a task following verbal directions and modeling and how their performance on one type of task transfers to another task with the same objects. The staff found that the students traditionally perform poorly on the first trial, better on the second and third trials, and poorly again on the fourth trial.

Problems

Even after verbal directions and modeling, most students require physical cues. DTC students also have difficulty following the changing directions required by the test, e.g., go right to left, then back across left to right, go up and down columns. Students almost always go left to right, even when shown the correct direction for a specific subtest. These autistic students also have a problem using two hands when required to turn the discs.

Suggested modifications

Basic modifications include the following:

- Have the students sit rather than stand to keep them from wandering around the room during the test.
- Modify the tasks presented on the test to allow for needed changes in the task structure.
- Develop your own norm tables, with separate tables for non-handicapped and for students within the program.

Minnesota Spatial Relations Test
American Guidance Service
Publishers Building
Circle Pines, MN 55014

This test assesses spatial perception, size discrimination, and the student's approach to a specific task. Using four boards with various shapes cut into each board, the individual must place forms of varying shapes and sizes into the corresponding holes.

Strengths

The autistic youth in our sample tend to perform well on this test, possibly because of their often-noted preoccupation with abstract shapes. This test appears to be like a game, so there is little problem holding the interest of the student. Students tend to do better with shapes they know, such as squares and triangles, rather than abstract shapes. Detailed observations can be made by the examiner related to how the learner approaches the task. Does he/she work with pieces of one size, then another, or of one to the right in filling the holes, or have no observable pattern of operation? Does the learner deal with the board in sections, or approach the entire board as a whole unit?

Problems

The manual states that an error must be counted each time a piece is touched to the board. The autistic youth in the DTC program persist in tapping the piece into an incorrect slot.

Suggested modifications

Two major modifications are suggested:

- Count touching the board as an error only if the student tries to fit the piece into an incorrect slot. Do not count tapping the board with the piece or dragging the piece along the board.
- Require that the learner sit rather than stand throughout the demonstration to minimize the desire to walk around the room during the session. Place the board and pieces on a table low enough so that the individual can get an overall picture of the entire board and can easily reach the pieces and the board.

Other Commercially Available Tests

The Transitional Autism Program is using three additional formal tests to measure other aspects of vocational functioning. These are summarized below.

Trainee Performance Sample (TPS)
NGG Associates, Inc.
Ideal Systems
West Allis, WS 53227

The purpose of the Trainee Performance Sample is to measure the ability of severely handicapped individuals to benefit from instruction and to identify the most effective methods for this instruction. The TPS consists of 25 benchwork tasks, e.g., bending wires, inserting pegs which involve (a) sorting, (b) assembling, (c) following verbal directions with and without objects, and (d) manipulating a variety of single objects.

Results are interpreted in terms of the individual's skill in learning through verbal directions, modeling/matching to sample instructions, and planned guidance or prompting. Additional information is provided on the learner's familiarity with TPS-type tasks and skill at learning from new instructions. Data are

also provided on the learner's resistance to physical prompts and willingness to attempt the TPS tasks. The test takes about 25 minutes per individual and should be administered by a professional skilled in behavioral training techniques.

Strengths

This test is most useful when given as the individual first enters the program. It takes less than an hour to administer and has clear and specific directions for both administration and scoring. There is a good variety of tasks, and unique information is provided on how the student learns, not on what he/she does or does not know.

Problems

Although the test has a variety of tasks, they are all related to the type of work done in sheltered workshops or in benchwork occupations. Also, although there are well-written directions for administration and scoring, the examiner should have at least an introductory knowledge of behavior management techniques and have read the manual at length.

Suggested modifications

No changes recommended in administration procedures.

Wide Range Employability Sample Test (WREST)
Jastak Associates, Inc.
1526 Gilpin Avenue
Wilmington, Delaware 19806

This assessment package measures manipulation and dexterity abilities on ten work samples based on sheltered workshop activities. The ten areas assessed are: (a) folding, (b) stapling, (c) packaging, (d) measuring, (e) stringing,

(f) gluing, (g) collating, (h) color matching, (i) pattern matching, and (j) assembling. The WREST takes approximately 1 1/2 hours to administer, but should be administered over two to three days with the autistic population. Test scores in terms of time and errors can be compared to clients in sheltered workshop, to the general population, or to industrial workers.

Strengths

The directions for the WREST are very flexible and allow for repeated demonstrations and practice on the part of the student. The WREST also incorporates jigs into the performance tasks, e.g., template for matching colors, slots for sorting paper, adaptor for folding paper, which allow autistic youth to perform at a higher rate. The autistic students tested excel particularly in the color matching.

Problems

The test requires a great deal of time to administer and should be broken into at least 2-3 days to maintain student interest. The WREST measures only tasks found in sheltered workshops or basic assembly jobs, not tasks traditionally found in community-based employment sites. Although the majority of subtests are well within the performance range of the severely handicapped person, the assembly subtest is too complex and should be simplified. Finally, the emphasis of the test is on speed, although errors are equally important. Both a speed and error score are derived for the total test, but norms are provided only for speed on the individual subtests. Program staff have found that students can greatly increase their time scores, but often increase their number of errors at the same

time. In the reverse, many students are particularly careful to make no or few errors, but show poorly on the individual subtest scores because of high time scores.

Suggested modifications

Because of the flexibility allowed in the manual, few modifications are required except:

- Use glue sticks rather than a bottle of glue in the tasks requiring gluing.
- On the pattern matching subtest, place the target patterns directly under the assembly board, rather than at the head.
- Develop individual norm tables for the error scores as compared to program students. If this is not possible, report the error scores on each subtest and include these in the test interpretation.

Adolescent and Adult Psychoeduational Profile (AAPEP)
Project TEACH
University of North Carolina--Chapel Hill
Chapel Hill, NC

This instrument was designed specifically for use with autistic learners. The test consists of three parts: direct observation, school/work observation, and home observation. The direct observation consists of a series of tests given to the learner who is then rated as to whether he/she passed, failed, or showed emerging scores. The school/work and home observations are checklists that are filled out by those persons responsible for the individual in these areas. The scores from the three areas are then compared.

Strengths

The greatest strength of this instrument is that it gathers information across all settings, including living, school and

work. An additional strength is that it classifies skills as not satisfactory, emerging, or not present. In addition, the directions and practical approach of the AAPEP are good.

Weaknesses

The vocational tasks contained in the AAPEP are too easy for most autistic youth and require little fine discrimination. The tasks have little resemblance to tasks, even in a sheltered workshop. Program staff have also observed that the direct observation items are greatly influenced by the individual's performance on the specific day on which the rating is made, rather than over a more representative time period.

Suggested modifications

No changes are recommended in the administration procedures.

APPENDIX B

Student Profile Database Forms

THE STUDENT PROFILE DATA BASED SYSTEM

The student profiling system has been developed in an effort to efficiently quantify student progress toward independence across environments. The microcomputer has the capacity to enhance the ability to organize, sort, extract, compare, and analyze large amounts of detailed information. This provides a powerful tool that can be used to systematically track a wide range of abilities, behaviors, and skills; and to summarize achievement and progress in objective terms. It enables a comparative view of a large number of variables simultaneously. This permits continuous assessment of the interactions between behaviors and abilities.

Theories of learning and behavior, as well as daily experience working with students who are severely handicapped underlie the design and development of this data based system. The student as a whole, as well as his/her entire life setting are included in the tracking and evaluation systems. In addition the widest possible range of each student's experience is monitored. Behaviors and skills across the environments of daily living, academic, community, vocational, recreation and leisure, etc. are all tracked within this data collection, analysis, and evaluation system.

The Student Profiling System is made up of the following three primary capabilities:

1) **Data Collection Form Generating Capacity**
   Part of the system includes the production of standard forms such as the Targeted Behavior Tracking Forms and also the production of customized forms such as the IEP/IPP Tracking Forms which are specific to each task.

2) **Data Entry Programs**
   Data entry programs have been designed so that persons with very minimal computer background will be able to enter data. The instruction then centers on the quality of information entered rather than the logistics of entry itself. The data entry programs run at a level similar to commercial computer games. "User proof" escapes and loops have been built into the programs, so that most mistakes do not require either re-starting the program or re-entering data.

3) **Report Generating Capacity**
   This is the key to the system, in effect the end product. The system includes numerous standard report formats designed to periodically summarize and analyze data. (Examples are included in Sections A, B, and C of this document.) Most reports require that ranges of dates be specified for which data is to be included in the report. In addition there is a powerful capacity to generate customized reports based on particular staff inquiries or research needs.

NEEDS OF THE DECISION MAKING ENVIRONMENTS

In the assessment of the decision making environments, three criteria were determined to be necessary to provide information to staff that would have impact upon that process on a day to day, as well as long term basis. Those criteria were:

Accessibility Staff at all levels of program delivery must have access to the system including generating collection forms, entering data, and producing reports. Staff from each discipline (academic, daily living, speech and communication, recreation, etc.) are responsible for identifying the tasks and producing the task analyses.

Timely Provision of Information Reports must be available at the times when decisions are scheduled to be made. (e.g., IEP meetings, weekly staffings, etc)

Quality Information, that is Appropriately Summarized Objective, valid and reliable information must be produced in report formats that can be effectively interpreted by staff, parents, and other professionals.

AUXILIARY CONSIDERATIONS

This system has been found to motivate staff who use it. When useful information is available in summarized form at the times when decisions are being made, the energy invested in collecting, recording, and entering data seems worth the effort. The computer programs do a large portion of the work in summarizing and reporting without the risk of errors in calculations. (If the data is entered correctly.)

In addition to recording information to be analyzed, many of the data collection forms also serve as communication devices between the various daily settings which the students move across during each day. Therefore, things like "transportation of personal items" on the Daily Report Form is not recorded into the data monitoring system, but is there for the purposes of helping keep track of personal items. UIR's and Intervention Report Forms also are circulated or posted as important sources of information about students that need to be shared among staff on a daily basis.

DIRECTIONS FOR FILLING OUT TARGETED BEHAVIOR LOGS

1. **STUDENT** Enter student's first name

2. **BEHAVIOR** Enter a brief description of what occurred. The DESCRIPTION is VERY important, especially if the behavior is just "aggression", there should be a "description" of what happened.

3. **#** Enter the behavior number. According to key provided.

4. **DATE** Enter the month/day/year (e.g., 3/12/86).

5. **TIME** Enter the time of day when the behavior began. It is very IMPORTANT to CIRCLE either am or pm. (e.g., 2:35 pm)

6. **DURATION** Enter the amount of time the BEHAVIOR persisted in minutes. If the time is less than a minute enter: -1. DO NOT include the length of time of the consequence unless the behavior persisted through that time.

7. **OTHERS INVOLVED IN BEHAVIOR** Enter the names of all persons directly involved in the behavior either as a potential trigger or an object of the behavior. DO NOT include staff who are ONLY involved in the consequence. List anonymous persons by describing their relationship to the incident. (e.g., "customer in restaurant")

8. **LOCATION** Enter the place where the behavior began. This should be a physical location and as specific as possible. (e.g., cottage kitchen, workshop snack area)

9. **ACTIVITY** Note the activity in which the student was engaged immediately preceding the onset of the behavior. (e.g., watching TV, packaging task, walking outside the Center)

10. **TRIGGERING EVENTS** Describe all conditions that were obvious causes of the onset of the behavior. ALSO include any speculations that you may have regarding cause. Please qualify speculations with "I think", "It appeared," etc.

11. **STAFF TAKING ACTION** Enter the NAME or initials of the staff member who administers the consequence.

12. **ACTION TAKEN** Enter the staff reaction to the behavior, including consequences such as sit out, time out, cues, etc. ALSO when there is no overt action by staff, this should be specifically noted. (e.g., "ignored behavior")

Comments and additional information that may help shed light on the behavior itself, the cause, or possible resolutions should be noted in the entry. We have allowed for the entry of comments into the computer programs.

TARGETED BEHAVIOR LOG

STUDENT_____ BEHAVIOR_____ #: ___
(describe)

DATE ___/___/___ TIME___:___ am pm DURATION _____ minute(s)
(circle)

OTHERS INVOLVED IN BEHAVIOR _____

LOCATION_____ ACTIVITY_____

TRIGGERING EVENTS_____

STAFF TAKING ACTION_____ ACTION TAKEN_____

_____

==========

STUDENT_____ BEHAVIOR_____ #: ___
(describe)

DATE ___/___/___ TIME___:___ am pm DURATION _____ minute(s)
(circle)

OTHERS INVOLVED IN BEHAVIOR _____

LOCATION_____ ACTIVITY_____

TRIGGERING EVENTS_____

STAFF TAKING ACTION_____ ACTION TAKEN_____

_____

==========

STUDENT_____ BEHAVIOR_____ #: ___
(describe)

DATE ___/___/___ TIME___:___ am pm DURATION _____ minute(s)
(circle)

OTHERS INVOLVED IN BEHAVIOR _____

LOCATION_____ ACTIVITY_____

TRIGGERING EVENTS_____

STAFF TAKING ACTION_____ ACTION TAKEN_____

_____

==========

STUDENT_____ BEHAVIOR_____ #: ___
(describe)

DATE ___/___/___ TIME___:___ am pm DURATION _____ minute(s)
(circle)

OTHERS INVOLVED IN BEHAVIOR _____

LOCATION_____ ACTIVITY_____

TRIGGERING EVENTS_____

STAFF TAKING ACTION_____ ACTION TAKEN_____

_____

C

OCT 1985 - DEC 1985

TARGETED BEHAVIOR TOTALS BY MONTH

	#1	#2	#3	#4	#5	#6	#7	#8	#9	NO #	DAYS PRESENT
October	109	82	0	9	3	64	19	9	0	0	31
November	14	39	0	6	6	25	5	2	0	0	22
December	2	3	0	4	6	2	2	1	0	0	21

RATE OF BEHAVIOR OCCURENCE PER DAY

	#1	#2	#3	#4	#5	#6	#7	#8	#9	NO #
October	3.52	2.65	0.00	0.29	0.10	2.06	0.61	0.29	0.00	0.00
November	0.64	1.77	0.00	0.27	0.27	1.14	0.23	0.09	0.00	0.00
December	0.10	0.14	0.00	0.19	0.29	0.10	0.10	0.05	0.00	0.00

Behavior #1-Screaming
Behavior #2-Aggression (pinching, hitting)
Behavior #3-Dropping TO floor
Behavior #4-Wetting pants
Behavior #5-Eating non-edibles and putting in mouth
Behavior #6-Agitation (pacing, moaning, self-injury)
Behavior #7-Crying
Behavior #8-Self-stimulation with objects
Behavior #9-Destroying items (break, write on, spit on)
Behavior X-Unnumbered Behaviors

TARGETED BEHAVIOR REPORTS for C
04/01/86-04/30/86

Behavior #1-Screaming

DATE:	DAY:	TIME:	BEHAVIOR #s:			DESCRIPTION:
04/02/86	Wednesday	03:40 pm	1	2	6	Screaming - Aggression - Agitation
04/02/86	Wednesday	07:30 pm	1	2		Screaming - Pinching, scratching
04/03/86	Thursday	09:50 am	1	6		Screaming - head hitting
04/03/86	Thursday	01:30 pm	1	2	5	Screaming - Aggression - Eating a plastic bead
04/04/86	Friday	06:20 pm	1	2		Screaming - Clawing
04/04/86	Friday	12:40 pm	1	6		Screaming - Pulling own hair
04/05/86	Saturday	06:45 pm	1	2		Screaming - Scratching
04/08/86	Tuesday	12:40 pm	1	6		Screaming - Head banging
04/12/86	Saturday	08:30 pm	1	2		Screaming - Aggression
04/12/86	Saturday	09:15 pm	1	2		Screaming - Aggression
04/13/86	Sunday	10:30 am	1	2		Screaming - Pinching & clawing
04/13/86	Sunday	10:50 am	1	2		Screaming - Aggression
04/13/86	Sunday	05:20 pm	1	2	5	Screaming - Aggression - Eating flour
04/14/86	Monday	10:43 am	1	2		Screaming -Scratching, pinching
04/14/86	Monday	11:00 am	1	2		Screaming - Scratching, pinching
04/14/86	Monday	11:05 am	1	6		Screaming - Pulling hair
04/14/86	Monday	03:20 pm	1			Screaming
04/14/86	Monday	04:00 pm	1	6		Screaming - Hit self on head
04/14/86	Monday	12:15 pm	1	6		Screaming - Hair pulling
04/14/86	Monday	12:20 pm	1	6		Screaming - Hair pulling
04/15/86	Tuesday	07:40 am	1	2		Screaming - Scratching, digging in w/fingernails
04/15/86	Tuesday	08:12 am	1	2		Screaming - Aggression
04/15/86	Tuesday	10:10 am	1	2		Screaming - Scratching
04/15/86	Tuesday	01:55 pm	1	2		Screaming - Scratching
04/15/86	Tuesday	02:15 pm	1	2		Screaming - Pinching
04/15/86	Tuesday	06:00 pm	1	2		Screaming - Scratching
04/16/86	Wednesday	09:50 am	1	6		Screaming - Head banging
04/16/86	Wednesday	07:35 pm	1	2	9	Screaming - Aggression - Destroying library book
04/16/86	Wednesday	07:37 pm	1	7		Screaming - Crying
04/18/86	Friday	06:30 pm	1			Screaming
04/18/86	Friday	09:40 pm	1			Screaming
04/19/86	Saturday	10:30 am	1	2		Screaming - Clawing
04/19/86	Saturday	01:45 pm	1	2	9	Screaming - Aggression - Writing on picture on wall &
04/19/86	Saturday	02:15 pm	1	2	6	Screaming - Clawing - Hitting head

COM232 STEPS TASK: Make bed at Ramada Inn

STUDENT:_____ DATE TASK STARTED:

SK = skipped, not done (consent should give reason) EC = environmental cue includes modelling, gesturing, etc.

I = Independent w/ MINIMUM distance of 5' between staff & student PC = cues that involve touching the student

VC = verbal cue R = refused

ACC/NUMB= if applicable enter the number accurate or a + or - for correct or not correct.

DATE___/___/___ TIME STARTED ___:___ TIME FINISHED ___:___

STEPS	SK	ACC/NUMB	I	VC	EC	PC	R	COMMENTS:
TOTALS:_____								ONLY for taking SUMMARY DATA
1 sheets-kng or double								
2 put on bot. sheet								
3 make sides even								
4 sheet-mat-tress edge								
5 pull up sheet								
6 smooth sheet								
7 tuck in sheet								
8 put top sheet on								
9 sides even								
10 smooth								
11 blanket on								
12 blanket sides even								
13 tuck blank at bottom								
14 fold over at top								
15 bed spread on								
16 square corners								
17 smooth bedspread								
18 bedspread sides even								
19 fold down bedspread								
20 pillow cases on								
21 push into points								
22 put pillow on bed								
23 fold over bedspread								
24 smooth bedspread								
25								

COM232 Student(s): K
TASK: Make bed at Ramada Inn
OBJECTIVE: Will perform 3 community work tasks with increasing independence.

TASK DESCRIP.:

STEP 1: Get correct sheets and pillow cases.
KEYWORD 1: sheets-kng or double
STEP 2: Put on bottom sheet.
KEYWORD 2: put on bot. sheet
STEP 3: Make sheet sides even.
KEYWORD 3: make sides even
STEP 4: Put bottom sheet edge to mattress edge.
KEYWORD 4: sheet-mat- tress edge
STEP 5: Pull up sheet.
KEYWORD 5: pull up sheet
STEP 6: Smooth sheet.
KEYWORD 6: smooth sheet
STEP 7: Tuck in sheet.
KEYWORD 7: tuck in sheet
STEP 8: Put top sheet on.
KEYWORD 8: put top sheet on
STEP 9: Make top sheet sides even.
KEYWORD 9: sides even
STEP 10: Smooth top sheet.
KEYWORD 10: smooth
STEP 11: Put blanket on.
KEYWORD 11: blanket on
STEP 12: Make blanket sides even.
KEYWORD 12: blanket sides even
STEP 13: Tuck blanket at bottom.
KEYWORD 13: tuck blank at bottom
STEP 14: Fold over at top--blanket and topsheet.
KEYWORD 14: fold over at top
STEP 15: Put bed spread on.
KEYWORD 15: bed spread on
STEP 16: Square bedspread corners to top of bed.
KEYWORD 16: square corners
STEP 17: Smooth bedspread.
KEYWORD 17: smooth bedspread
STEP 18: Make bedspread sides even.
KEYWORD 18: bedspread sides even
STEP 19: Fold down top of bedspread.
KEYWORD 19: fold down bedspread
STEP 20: Put pillow cases on 1,2,3
KEYWORD 20: pillow cases on
STEP 21: Push pillow into points
KEYWORD 21: push into points
STEP 22: Put pillows on bed
KEYWORD 22: put pillow on bed
STEP 23: Fold bedspread up over pillows.
KEYWORD 23: fold over bedspread
STEP 24: Smooth bedspread.
KEYWORD 24: smooth bedspread

COM503 IEP/IPP DATA TASK ANALYSIS REPORT STUDENT: J

TASK: HERALD TELEPHONE PAPER ROUTE

	DATES: 03/08	03/22	03/23	03/29	04/05	04/12
STEP21: Tells staff "finished"						
SKIPPED		X				
# DONE						
INDEPENDENT			X	X		X
VERBAL CUES	1				1	
ENVIRONMENTAL CUES						
PHYSICAL CUES						
REFUSED						
COMMENTS:						
STEP22: Staff pays him						
SKIPPED						
# DONE						
INDEPENDENT		X	X	X	X	X
VERBAL CUES	1					
ENVIRONMENTAL CUES						
PHYSICAL CUES						
REFUSED						
COMMENTS:						
STEP23: Chooses treat						
SKIPPED						
# DONE						
INDEPENDENT		X	X	X		X
VERBAL CUES					1	
ENVIRONMENTAL CUES	1					
PHYSICAL CUES						
REFUSED						
COMMENTS:						

TOTAL NUMBER OF CUES EACH DAY:

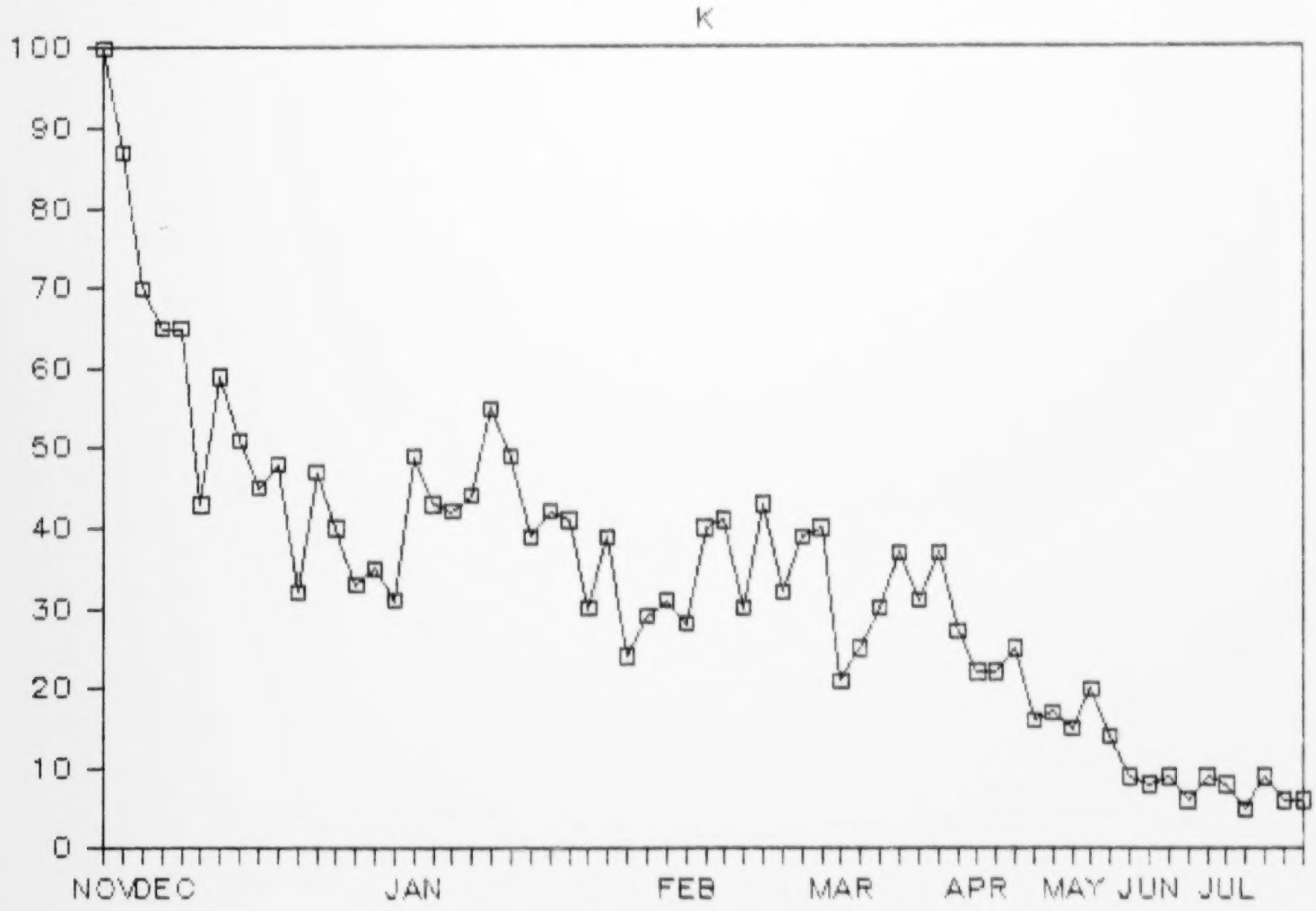
DATES:	03/08	03/22	03/23	03/29	04/05	04/12
TOTAL #:	24	35	21	22	15	13

131

COM503 HERALD TELEPHONE PAPER ROUTE STUDENT:J

APRIL 18 - MAY 12 STEPS:	FIRST HALF	SECOND HALF
STEP #1 FIRST HOUSE		
SKIPPED	0	0
INDEPENDENT	0	0
VERBAL CUES	0.33	1
ENVIRONMENTAL CUES	0	0
PHYSICAL CUES	0	0
REFUSED	0	0
STEP #2 APT J6		
SKIPPED	0	0
INDEPENDENT	0	0
VERBAL CUES	2.33	2
ENVIRONMENTAL CUES	0.33	0
PHYSICAL CUES	0	0
REFUSED	0	0
STEP #3 APT G3		
SKIPPED	0	0
INDEPENDENT	0	0
VERBAL CUES	2.66	1
ENVIRONMENTAL CUES	0.33	1
PHYSICAL CUES	0	0
REFUSED	0	0
STEP #4 APT G2		
SKIPPED	0	0
INDEPENDENT	0	0.33
VERBAL CUES	2.66	0.66
ENVIRONMENTAL CUES	0.66	0.66
PHYSICAL CUES	0	0
REFUSED	0	0
STEP #5 HOUSE #110		
SKIPPED	0	0
INDEPENDENT	0.66	0
VERBAL CUES	1.33	1
ENVIRONMENTAL CUES	0.33	0.33
PHYSICAL CUES	0	0
REFUSED	0	0

BLOOMINGTON CONVALESCENT CENTER



NOVEMBER 1984 – JULY 1985
□ VERBAL CUES

OTH000

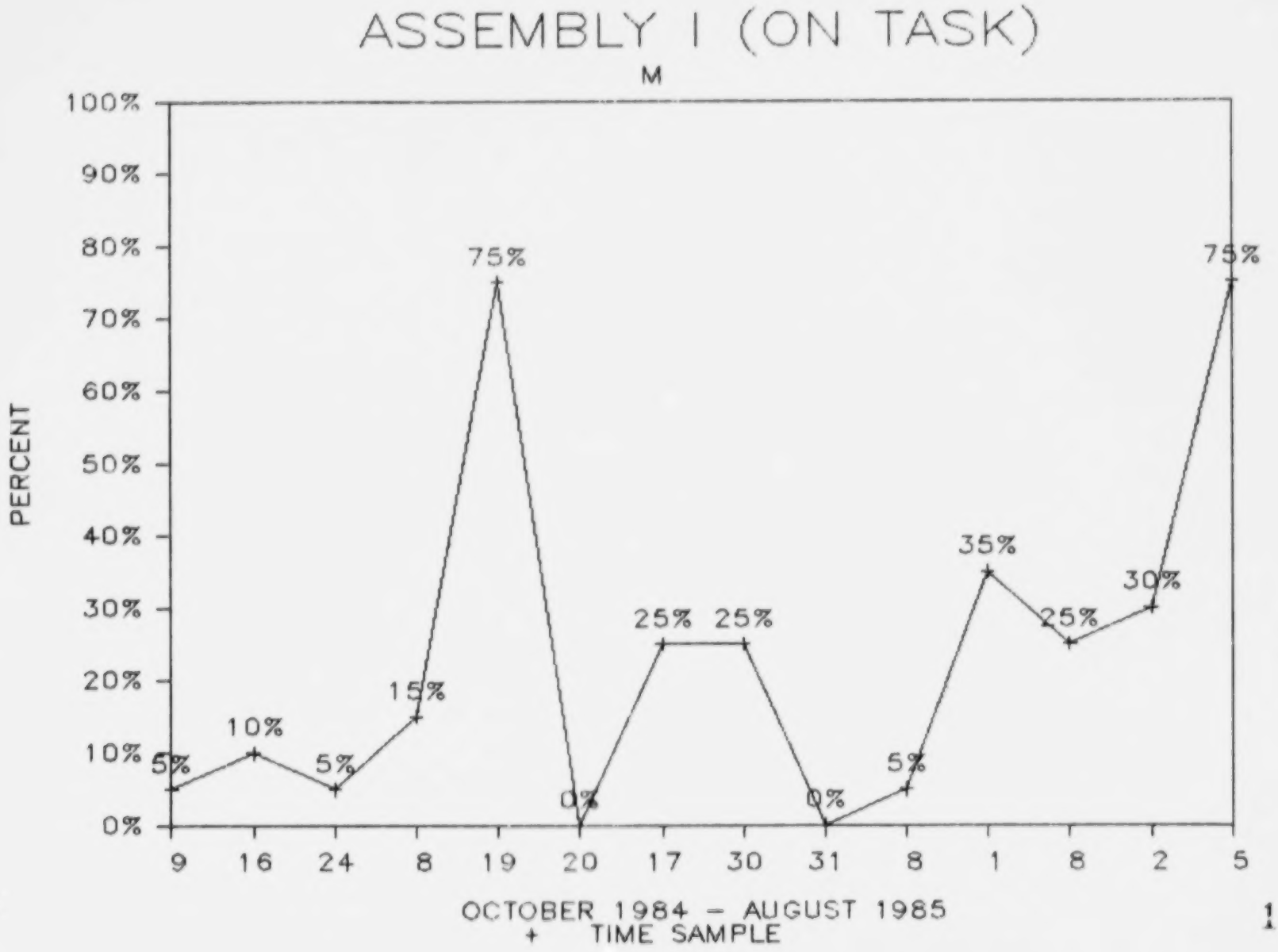
STUDENT: _____

VOCATIONAL DATA COLLECTION FORM

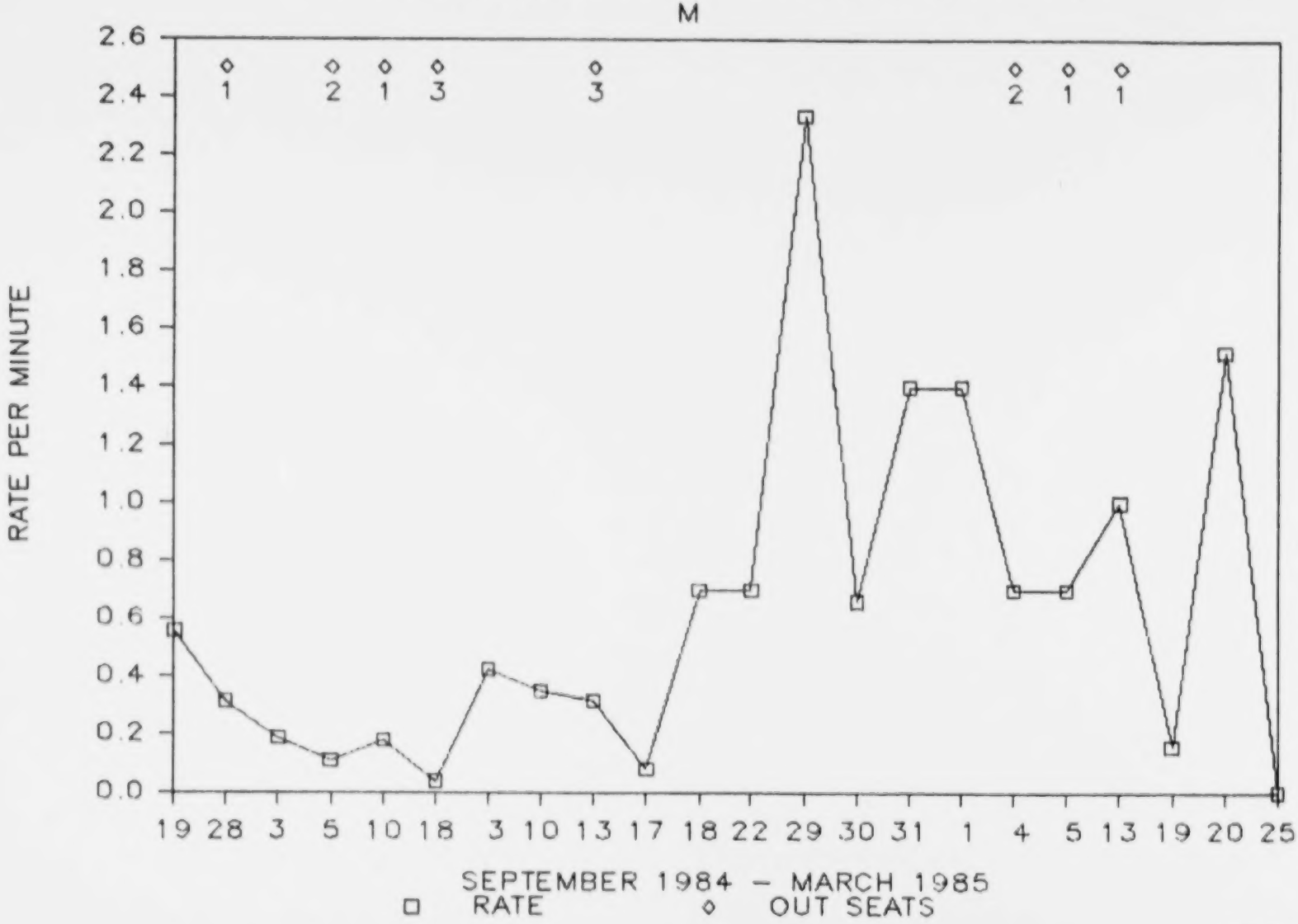
DATE = date task recorded
Time = total amount of time spent on task recorded in minutes.
# DONE = number of items completed
LOUD VOCAL = loud vocalizatios time sample each 15 sec over 10 min

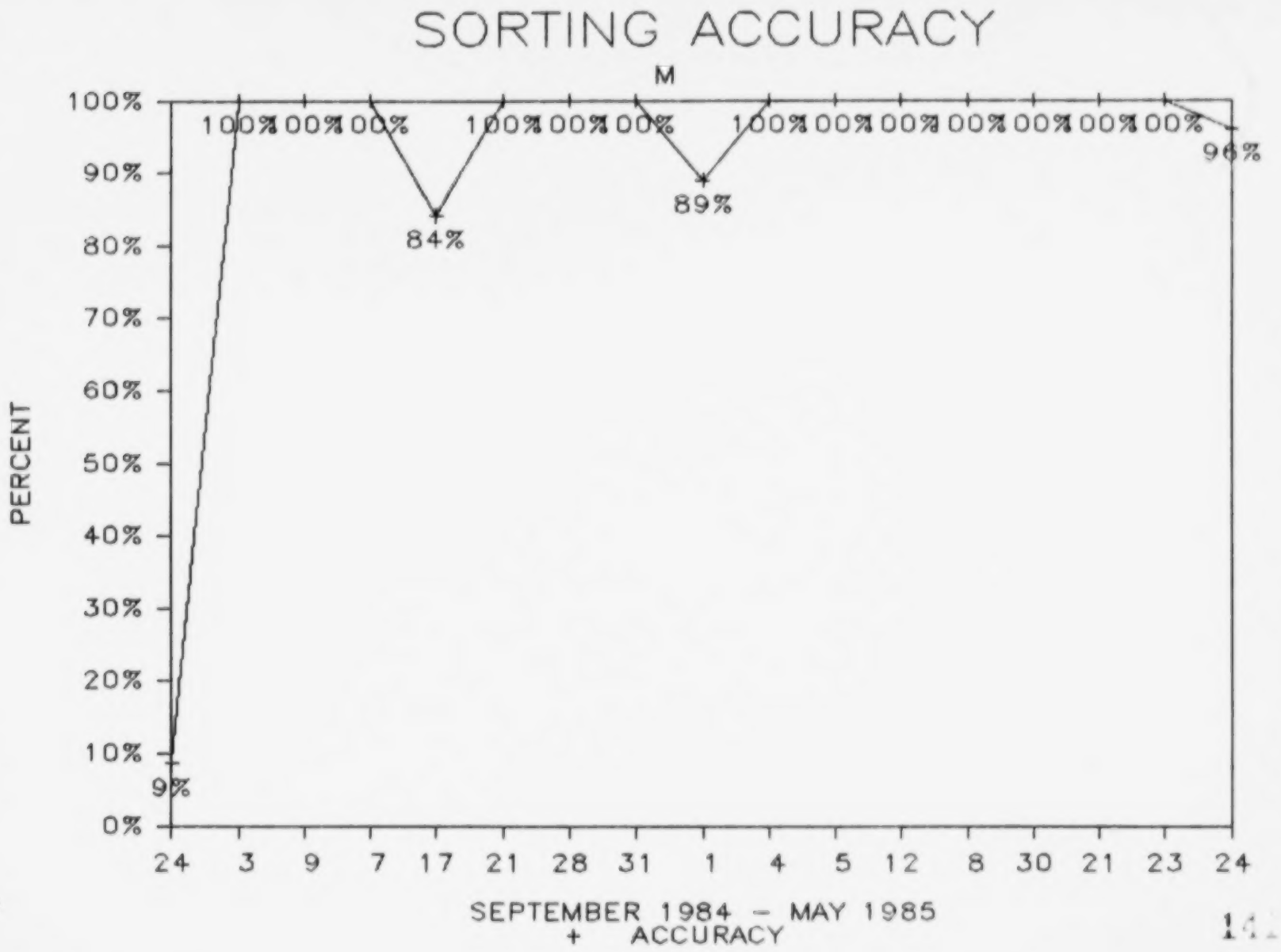
#CORRECT = number of successful completions
OUT OF SEATS = tally # of times student leaves seat
ON TASK = Each 30 sec. over 10 minutes (# on/20).

DATE	TASKS	TIME (min)	# DONE	#CORRECT	OUT of SEATS	ON TASK	LOUD VOCAL	COMMENTS


ASSEMBLY I (ON TASK)
M
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
PERCENT
5%
10%
5%
15%
75%
0%
25%
25%
0%
5%
35%
25%
30%
75%
9
16
24
8
19
20
17
30
31
8
1
8
2
5
OCTOBER 1984 – AUGUST 1985
+ TIME SAMPLE

PACKAGING PRODUCTIVITY




SORTING ACCURACY
M
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
PERCENT
100%00%00%
100%00%00%
100%00%00%00%00%00%00%
96%
84%
89%
9%
24 3 9 7 17 21 28 31 1 4 5 12 8 30 21 23 24
SEPTEMBER 1984 – MAY 1985
+ ACCURACY

APPENDIX C

Vocational Assessment Summary

VOCATIONAL ASSESSMENT SUMMARY

1. **Formal Assessment Summary**
   84-85 Schedule
   Wide Range Employability Sample - 9/83, 5/84, 9/85, (5/85)
   The Adolescent and Adult Psychoeducational Profile - 11/84, 11/85
   The Minnesota Spatial Relations Test - 1/84, 1/85
   The Minnesota Rate of Manipulation Tests - 2/84, 2/85

Four vocational assessment instruments were administered to Kevin this year. They were: The Wide Range Employability Sample Test (September and May), The Adolescent and Adult Psychoeducational Profile (November), The Minnesota Spatial Relations Test (January), and The Minnesota Rate of Manipulation Tests (February). These instruments will be administered again next year to document long term growth in the domains probed by the various tests. In the assessment section of Kevin's program book there are complete reports of his performance and a detailed description of each instrument.

Wide Range Employability Sample Test (WREST)

Kevin's performance in September of 1984 showed a general improvement in both time and error rate from the April administration. Five of ten subtests showed decreases in time required to complete the task. Eight of the ten tasks showed a reduction in errors. One subtest, Pattern Matching, showed the maximum error score for both the April and September administration.

Kevin's best performance relative to a sample of actual sheltered work employees was in the subtests for Folding, Stapling, and Color Matching in the April administration and in Folding, Stapling, Color Matching, and Collating in the September administration. His best scores were in the poor to average range when compared to the sheltered work employee. Frequent leaving the testing area, distractability and short attention span were mentioned in the comments of both administrations.

Minnesota Rate of Manipulation Tests (MRM)

This instrument was administered in February, 1985. The scores are expressed as seconds required to complete the various manipulations. Kevin's performance in February showed improvement in all five subtests from the previous administration in May, 1984. Kevin's performance in the May administration was well below the average for the DTC residential population in four of the five subtests. In February Kevin's performance was still below average for the DTC students but had improved somewhat in relation to the average score. Kevin's relatively wide range between the trials on some of the subtests indicates attention and

performance variation. Sporadic attention and out of seat behavior was mentioned in both administrations.

Minnesota Spatial Relations Test (MSR)

Kevin's total time to complete all subtests in the January 1985 administration was approximately 12% less than the May 1984 total. His reduction in total errors was more than 75%. In January Kevin's percentile rank for time compared to the vocational-technical norm group was 1. Kevin's percentile rank for accuracy compared to the same group was 80.

Adolescent and Adult Psychoeducational Profile (APEP)

The APEP was administered in April 1984 and in November of 1985. Both times Kevin's strongest areas were the vocational skills. The November administration shows a slight increase in the number of skills observed including the functional communication in the work environment. Again, Kevin's difficulty remaining at a task and his short attention span were mentioned as the major obstacles to better performance.

2. **Workshop Performance**

Rate

Kevin's baseline rate for sorting by zip codes was 10.13 per minute. Kevin's rate for sorting by zip code has increased to 10.29 per minute, an increase of 1.2%.

Kevin's rate for assembly also increased from a baseline of .48 per minute to the current level of .59 per minute. This represents a 23% increase.

Kevin's rate did decrease for the packaging task. His baseline rate was .60 units per minute. This rate has fallen to his current level of .30 per minute.

Accuracy

Kevin's IEP objective set an accuracy level of 95% as the criteria. In sorting by zip code Kevin's accuracy level in the baseline period averaged 55%. 11% of the accuracy samples met the criteria of 95% accuracy. Kevin's current level of accuracy in sorting by zip code averages 70%. The percentage of time Kevin was able to meet the criteria of 95% increased to 27%. Further analysis reveals Kevin is accurate to 85% on this task 50% of the time.

On the eight piece bicycle seat assembly task Kevin met the criteria of 95% of the completed units accurate 60% of the

sample periods. The last 13 sample periods from January to March show Kevin at 100% accurate.

3. **Workshop Behavior**

Out of Seat

Kevin's out of seat behavior in the workshop has shown little improvement. Kevin's IEP objective in this area listed a criteria of three or less incidents of leaving the work station per fifty minute period. Currently Kevin can meet this criteria 46% of the time while sorting zip codes, 32% of the time when assembling, and 12% of the time when packaging. Kevin's average number of out of seats per fifty minute work period are: 3.86 for sorting, 5.5 for assembling, and 7.8 when packaging.

Continuous Working (On Task)

When sorting by zip code Kevin met his IEP goal of 65% on task for an unprompted ten minute sample 60% of the samples in the baseline period. Kevin's current performance has increased to meeting the criteria 63% of the samples. His average percent on task has also increased from 58% during the baseline to his current level of 70%.

When performing the packaging task Kevin works at 65% on task only 12% of the samples. His average percent on task is 47%. Both of these values show a decrease from his baseline values of 60% of the samples at criteria and an average of samples at 71%.

4. **Community Based Vocational (Bloomington Convalescent Center)**

Kevin has bused and washed dining room tables at the Bloomington Convalescent Center since 10/30/84. During this time period there have been several interruptions of the training for remodeling at the convalescent center and vacations home for Kevin. The time to complete the tasks and the number of cues given have been recorded daily.

During October and November Kevin averaged 52.25 cues per session. During the past two week period 1/21 to 2/1 Kevin reduced his total number of cues per session to 33.7. Kevin's average time to complete the tasks at the convalescent center was 37.8 minutes for the month of December. During the period 1/21-2/1 Kevin's average time had dropped to 34.1 minutes.

On 2/21 Kevin's time and cue totals increased dramatically. On this date Kevin's routine for completing the tasks was changed to supply more consistent data to be used in designing and implementing an intervention program for reducing interfering self-stimulatory behaviors and increasing time on task. At this time Kevin's level of on task

performance has not been measured due to the large number of cues needed to complete the tasks.

5. Recommendations

Kevin's performance on the WREST, APEP, MRM, MSR, indicate that Kevin's vocational skill level and potential are adequate for some type of vocational placement. Kevin's accuracy in both the formal assessment and workshop data ranged from acceptable to superior on most tasks. Areas of difficulty in regards to accuracy and skills were tasks that required precise visual match to sample (e.g. pattern matching on the WREST and sorting by zip code in the workshop).

Two strategies should be used to improve Kevin's accuracy in precise match to sample tasks. One strategy is to explore adaptations that make the discriminations more salient for Kevin (e.g. placing zip code labels in the appropriate bin instead of above the bin). In addition more tasks that require match to sample discriminations could be added to the workshop (e.g. assembling printed circuit boards from a model).

Kevin's data shows a consistent problem with attention to task. The comment section of each of the formal assessments stated that Kevin's results would have been higher if his attention to task would have been greater and if a large percentage of the time was not spent on redirecting Kevin to the testing area. Kevin's workshop and community vocational data also indicate that leaving the work area and slow rate due to self stimulatory behavior are the major impediments to successful vocational placement in the future.

Presently a masters and a Ph.D. level graduate students are implementing two new behavior management plans for Kevin in this area. The plan for the workshop uses preferred music to interfere with Kevin's usual pattern of self stimulation. The intervention plan at the convalescent center incorporates a preferred activity, putting paper in a binder, into the routine to speed the rate of performance. The preliminary results of these plans will be available in May.

Kevin should continue to work at the Bloomington Convalescent Center. This training site gives us information about Kevin's ability to work in a community environment that involves movement to complete the task and contains a high degree of visual and auditory stimulation. Kevin should also continue to work in the work-based setting at the DTC. In the DTC environment efforts should be made to expand the number of skills that Kevin has in addition to promoting continued improvement in his work behavior in a structured environment.

A third focus of Kevin's vocational program should be the exploration of a manufacturing oriented community-based vocational site. In this type of environment Kevin could use his skills in packaging, assembling, mailing, etc. and continue to develop appropriate work behaviors in a more normalized environment.

APPENDIX D

Sample Individual Educational Plans

IEP
LONG RANGE GOALS
KARI

1. Kari will increase independent work behavior.
2. Kari will improve her current vocational skills.
3. Kari will explore community placement.
4. Kari will increase her functional skills in math, reading, time-telling, money concepts and personal data.
5. Kari will improve her expressive and receptive communication skills.
6. Kari will increase her independence in self care skills.
7. Kari will increase her skills and independent functioning in social interaction and in leisure activities including art, music and gross motor.

GOAL I
(Work behaviors)

1. Working within a 50 minute work period on familiar tasks, Kari will remain at the work station unless permission to leave is obtained with increasing independence.

2. Working within a 50 minute work period on familiar tasks, Kari will follow the sequence of: raise hand, say "I am finished" when a task is completed or materials are gone without cues.

   4 of 5 periods

3. Working within a 50 minute work period on familiar tasks, Kari will follow the routine of: raise hand, say "help please" or "bathroom please" when appropriate with increasing independence.

4. Working within a 50 minute work period on familiar tasks, Kari will work without loud talking or screaming with increasing independence.

5. Working within a 50 minute work period on familiar tasks, Kari will follow a break time routine of: buy treat, choose activity, and remain seated until the bell with increasing independence.

6. Working within a 50 minute work period on familiar tasks, Kari will perform at a rate of 70% on task for 10 minutes, without verbal cues and with periodic token reward.

   2 of 3 samples on each task

GOAL II
(Vocational Skills)

1. Working within a 50 minute work period on familiar tasks, Kari will perform one assembly tasks with accuracy greater than 95% and at a rate of 15% greater than baseline rate with periodic cues and reward.

   2 of 3 times each task

GOAL III
(Community Placement)

1. Kari will perform specific skills in a community setting working at 60% on task for a 10 minute period with increasing independence.

2. Kari will work for at least an hour in two different community experiences for four to six weeks with supervision demonstrating increasing independence in both.

GOAL IV
(Functional Academics)

1. Kari will recognize the time in 5 minute intervals and match 4-7 activities in her environment without cues.

   4 of 5 trials

2. Kari will identify the day and date and match to at least one activity in her environment with an initial cue.

   4 of 5 trials

3. Kari will follow a sequence of: find (item), put (item) on counter, pay, say thank you or goodbye with an initial cue for each step.

   50% of the trials

4. Kari will choose and use correct volume measures in 4 to 7 step recipes without cues for measures.

   3 of 3 times

5. Kari will identify and respond appropriately to work/vocational and community related written words.

   4 of 5 trials each word

6. Kari will read phrases to follow 3-5 step task directions, read shopping and material lists, and 4-7 step recipes.

   4 of 5 times each phrase/word

7. Kari will legibly write her name, address, phone number, social security number, date of birth from memory.

   4 of 5 times each item

8. Kari will recite her name, address, and phone number in a variety of situations to specific cues.

   4 of 5 times each item

GOAL V
(Communication Skills)

1. Kari will verbally respond appropriately through three exchanges to comments about familiar topics.

   75% of charted time

2. Kari will have no more than five non-functional echolalic responses while involved in a three minute interaction with staff on a familiar topic.

   50% of charted time

3. Kari will initiate salutations in response to a comment or situation.

   80% of charted time

4. Kari will verbally express her wants and needs to a specific person independently.

   50% of charted time

5. Kari will use her communication cards as a back up system in all environments when the situation occurs independently.

   100% of charted time

6. Kari will use excuse me, thank you, and yes/no, in specific social contexts without adult assistance.

   60% charted time

7. Kari will produce M, N, B, P, T consonant sounds in final positions in words in structure situations.

   80% accuracy of 10 trials each

GOAL VI
(Self Care)

1. Kari will increase effectiveness of hair brushing.

2. Kari will transport objects from one place to another including her purse with increasing independence.

3. Kari will follow a specific mealtime routine including swallowing before talking and finishing what she chooses with increasing independence.

4. Kari will follow a specific routine for toileting with initial cue.

   3 of 5 times charted

5. Kari will follow a routine for changing her pads during her menstrual period with increasing independence.

6. Kari will keep her hands away from her genitals in non-private settings with one verbal cue.

   95% of charted time

GOAL VII
(Social/Leisure Skills)

1. Kari will keep her hands to herself, concerning babies, in all settings, with increasing independence.

2. Kari will go through a cafeteria line with increasing independence.

3. Kari will participate in two group art projects per month.

4. Kari will do relaxation techniques with cues that will generalize across settings, with increasing independence.

5. Kari will do a 20 minute modified aerobic routine with increasing independence.

6. Kari will follow routines in five community recreation facilities with increasing independence.

7. Kari will perform free style arm movement for swimming - and use this to swim (with support) the width of the pool three times.

IEP
LONG RANGE GOALS
FRANK

1. Frank will exhibit appropriate work behaviors.
2. Frank will improve his vocational skill level.
3. Frank will improve his academic skills and use them in functional situations.
4. Frank will improve his expressive and receptive communication skills.
5. Frank will increase his skills and independent functioning in leisure activities including art, music, and gross motor.
6. Frank will increase his social awareness.

GOAL I
(Work behaviors)

1. Frank will follow a site-specific routine for breaktime activities with increasing independence.

2. Frank will work continuously at an average of 75% on task on five workshop tasks as measured by 10 minute unprompted samples.

   80% of recorded data; 4 consecutive times for each

3. Frank will work quietly (no talking) for 10 consecutive minutes as measured by unprompted time samples.

   75% of recorded samples

4. Frank will initiate breaktime and worktime at appropriate times in his schedule with increasing independence.

5. Frank will increase his rate of working in a community work site.

6. Frank will work in the community without exhibiting negative behaviors.

GOAL II
(Vocational skills)

1. Frank will perform six step visual match to pictures with 90% accuracy

   75% of recorded tasks
   6 consecutive times

2. Frank will perform 5 different work tasks with 90% accuracy.

   75% of recorded tasks
   4 consecutive times for each

3. Frank will increase his productivity by 10% from an April baseline on select tasks.

4. Frank will perform two community work experiences for at least an hour and a half, for six weeks each with increasing independence.

5. Frank will perform office work with adult presence after initial direction.

GOAL III
(Academic skills)

1. Frank will follow a site-specific routine for stores and restaurants in the community.

   85% of recorded incidents

2. Given a quarter, dime, or nickel, Frank will verbally count out the equal value in pennies.

   9 of 10 times

3. Given any combination of pennies, nickels, and dimes under a dollar, Frank will verbally count out the amount staff has given him.

   8 of 10 times

4. When asked a specific amount under 50 cents in change, Frank will pick the correct coins needed from a pile of pennies and nickels.

   8 of 10 times

5. When written or asked, Frank will identify 1 cup, 1/4 cup, 1/3 cup, 1 Tablespoon, 1/2 Tablespoon, 1/4 Tablespoon, 1 teaspoon, 1/2 teaspoon, 1/4 teaspoon from the entire group of measuring instruments listed.

   9 of 10 times

6. Frank will complete a cookie recipe with increasing independence.

7. Using a weekly calendar, Frank will answer questions about the present week concerning time of events and day of events.

   70% accuracy

8. Frank will recognize from sight 50 cooking words, 25 schedule words, 20 restaurant menu words, 10 breaktime words, and 50 new sight words found in story books.

   90% accuracy for each list compiled

9. Frank will tell time in five minute intervals.

   70% of trials

10. Frank will count one to one correspondence doing functional tasks up to twenty five.

    75% of charted time

GOAL IV
(Communication)

1. Frank will demonstrate knowledge of 7 new basic language concepts (e.g., male, female, inside, above) both expressively and receptively.

   80% accuracy

2. Frank will respond to "how" questions (regarding activities he frequently participates in) with three-step sequencing responses with increasing independence.

3. Frank will participate in a program at least three times a week to learn about expressing and reading emotions, such as mad, sad, frustrated and happy and what to do about how he feels.

4. Frank will cease to talk about a topic for five minutes when given specific learned cues.

   4 of 5 trials

5. Frank will initiate interaction with standard social openers (e.g., How are you?), or by commenting (e.g., It's a nice day!) with increasing independence.

6. Frank will use language to describe differences and similarities in objects with increasing independence.

7. Frank will demonstrate expressive and receptive knowledge of ten categories associated with his daily living.

   80% of charted time

GOAL V
(Leisure skills)

1. Frank will initiate taking his turn independently during a board or card game.

   80% of recorded time

2. Frank will remain seated during a 20 minute arts and crafts project.

   80% of recorded time

3. Frank will participate in an arts and crafts project for 20 minutes with increasing independence.

4. Frank will imitate a leader's modeling during an exercise routine with increasing independence.

5. Frank will follow behavioral procedures during community activities.

   90% of recorded time

6. Frank will initiate taking his turn independently during group activities in the community.

   80% of recorded time

7. Frank will participate in social interaction with sociable peers for ten minutes with adult presence.

   50% of charted time

8. Frank will improve his swimming skills:

   a) Frank will swim two lengths on his front.

      4 times

   b) Frank will swim two lengths on his back.

      4 times

   c) Frank will jump in the water at three different depths.

      4 times

   d) Frank will dive into the water head first.

      4 times

   e) Frank will stay in the deep water for three minutes treading water and floating.

GOAL VI
(Social awareness)

1. The following behaviors are targeted for decrease and/or tracking.

   #1 - Aggression (hitting, kicking, pinching, squeezing, pushing hard, biting, pulling hair)
   #2 - Agitation (pulling his hair hard or out, biting himself)
   #3 - Throwing/breaking
   #4 - Getting out of bed at night
   #5 - Grabbing things from people
   #6 - Urinating in inappropriate places

2. Frank will initiate conversation with people whose names he knows and stop the conversation with cues to do so.

3. Frank will follow a procedure to choose a solitary activity and do it for at least 5 minutes with increasing independence.

4. Frank will follow all rules and procedures for riding in the car with increasing independence.

5. Frank will tolerate music with increasing independence.

6. Frank will follow bathroom procedures with increasing independence.

7. Frank will follow set procedures at mealtimes with increasing independence.

8. When people are engaged in conversation, Frank will respond to a cue to wait until given a cue to talk.

50% of charted time

APPENDIX E

Sample Behavior Plans

INDIANA UNIVERSITY

DEVELOPMENTAL TRAINING CENTER
2853 East Tenth Street
Bloomington, Indiana 47405
(812) 335-6508

NAME OF REPORT: Behavior Plan

Name: Terri
Age: 16
Birthdate:
Date of Assessment:
Date of Report:
Reporter/Examiner:

Parents' Name:
Address:

Pursuant to PL93-568, this information cannot be disseminated to any other agency without the written consent of the parents.

Health Concerns

- Constipation (sometimes shows up as runny stools)
- Runny nose from allergies - hay fever

Motivators

- locking doors
- swimming
- coloring
- change for vending machines
- food
- rides in car
- salad
- sorting
- stapling paper
- blowing soap bubbles
- collating
- cleaning kitchen
- going out
- showers

General Concerns

- When startled and wakes up quickly tends to be in bad mood
- Grabs food or items she wants
- Attached to her clothing; but will also destroy (rip) clothing
- Difficult to redirect
- Wanting to take a shower after messing

Agitation or Frustrating Experiences

- When can't follow her routine, or do what she wants
- Confusion when routines are changed or interrupted
- Certain clothes she doesn't want to wear (or wants to wear and can't)
- When she wants things a certain way in her environment, e.g., doors, locks
- When toilet isn't flushed or she can't flush it
- 3 count

Terri BEHAVIOR PLAN UPDATE 5-28-86

Attention Getting Behaviors - Signal that she needs more attention

Taking her clothes off	Enrich Terri's 1-1 attention: e.g.,
Putting things in her mouth	Color with her
Throwing things around	Sit with her
Running off	Look at pictures
Climbing on furniture	Dance, ride bikes
Lying on carhoods, furniture	Positive touching
Rolling in mud	Informal, spontaneous
Touching things that she should not	Plan attention/breaks
	Play, roughhouse
	Redirect when needed

Compulsive Behaviors

Terri needs these. When possible try to use them to advantage.	Her compulsion with keys will be worked on by giving her her own keys and locked cabinet.

Behaviors that communicate refusal - Before Aggression

Biting tongue	When Terri does any of these say, Tell me, "go away" and sign, "go away". Say in 5 minutes we'll do _____. Go away for a bit. Upon return use a contingency if appropriate or give a direction. If she again gives a signal, repeat the above. If it is felt that you know what she wants and can explain, like someone being absent, then do so.
Snarling	
Biting her clothes	
Biting her hand or finger	
Stomping her feet	
Grabbing materials	
Pushing things away	
Falling down	
Whinning	
Slamming doors	

Squeezing staff's arm
Pushing someone out of the way
(Left up to staff decision - is contact, but often first signal and her way to communicate something.)

Sometimes because the above messages have not been responded to in some way they escalate to aggression.

Aggressive Behaviors

A. If Terri aggresses (bites, attempts to bite, kicks, attempts to kick, scratches, hits, pulls hair, pushes, shoves, etc).

B. Tell her - DOWN. Can say "Sit down" with emphasis on down. Try to stay behind her and be ready to assist with a knee in her knee and a push. She goes off balance fairly easily.

C. Once down, direct her to lie down, if she does not do this.

D. At this point ONE other staff member will move behind her as well as first staff member. Stay back. If she will not stay down, she will be held with arms outstretched.

E. If she is down and does not need restraining, leave her there until she appears calm then direct her to do something. TERRI CAN BE ASKED QUESTIONS, BUT REMEMBER THAT AT THIS TIME SHE ANSWERS YES.

F. If she has had to be restrained and continues to struggle she will be moved to Time out, to a car, or to her bedroom (if she is upstairs and can't be moved to time out) when relaxed and after inserting something for her to bite on. She will remain there until calm and staff feel she can be directed to an activity.

Other Behaviors	Antecedents	Intervention
Rips clothes	Mad	Take item away immediately. Record these incidences.
Wets the bed		Take her to bathroom before bed. Staff clean it up while Terri showers, if she does wet the bed.
Bowel accidents		Follow Terri's Bathroom Plan. With structure give her sensory experiences which are "messy" such as working with sand, water, paints. Have a designated time and spot in each discipline for this. Take her to the bathroom before each outing.
Wanting to do other's task	Routine Likes it	Tell her, "X is setting table. It is X's turn." Redirect.

INDIANA UNIVERSITY

DEVELOPMENTAL TRAINING CENTER
2853 East Tenth Street
Bloomington, Indiana 47405
(812) 335-6508

NAME OF REPORT: Behavior Plan

Name: Barry
Age: 20
Birthdate:
Date of Assessment:
Date of Report:
Reporter/Examiner:

Parents' Name:
Address:

Pursuant to PL93-568, this information cannot be disseminated to any other agency without the written consent of the parents.

Health Concerns

- Needs to use Clearasil soap and cream daily for blemishes
- Prone to constipation; needs prune juice daily
- Generally very healthy

Motivators

- rides in car
- music
- bottles and his objects
- carousels
- boat rides
- swinging on swing
- time by himself
- sitting by window

Things That Cause Excitement

- Christmas
- Summer vacation

General Concerns

- Slow at transitions

Fears

- dogs
- heights
- aggressive people

Agitation Causing or Frustrating Experiences

- Being hot
- Being confused
- Tired
- Routines & rituals interrupted
- Sexual frustration/ excitement
- Wet, muddy or sticky things on his hands
- Unfamiliar people within his environments
- Change of routines he doesn't understand

BEHAVIOR PLAN UPDATE
Barry

Behavior	Antecedent	Intervention/Consequence
Aggression toward adults; hitting, biting	Delayed reaction to confusion, blocked expectations, frustration with tasks and events, noise, heat, interference with agitated movement, delayed reaction to previous events; afraid of dogs	Tell him, "Go to sit out". Count if needed. Set timer for 3-5 minutes where he can see it. If not calm, reset for 3-5 minutes without it going off. If he gets out of sit out he goes outside in cottage and recreation until calm (usually a few minutes).
Self-injurious behavior	Any of above	Ignore minor incidents - redirect. Adult must stay calm. Active ignoring if necessary. When hard head banging, put something soft between him and the wall.
Agitation in the form of pacing, running, hard rocking, hand flapping, arm squeezing	Being hit by another student. He is confused. He is tired. When expectations, routines, and rituals are interrupted. Adult looking at him. Sexual frustration/excitement	Give him information or ask what he wants. If early, take him to calm area and activity, but at a distance. Give him space. Allow this in a designated area. Redirect to other tasks. Allow him to remove a shirt if he says, "hot".
Bottle carrying or other small pieces or objects	Free time Habit Security	Plastic bottles will be kept in a place in his room. From environment to environment, the rule is, "Carry one". This includes to and from home. The one should be small. He may have bottles as reinforcer for finishing work. He is required to put bottles on table when doing a task. Tell him, "First _____, then bottle (or other object)". Tell him, the bottle is full, you can have it when it's empty.

Behavior	Antecedent	Intervention/Consequence
Says "Okay-a"	He wants something	Ignore. Can cue him to say what he wants. When he does verbalize appropriately, get him what he wants.
Jumping on bed	Excited, happy	He will be given one warning if he jumps on his bed. After one warning if he jumps, then his mattress is put on the floor for the rest of the night. Mattress is put back on the bed in the morning, as sitting on the bed is part of his routine in the morning.
Slow transitions	Bored or unchallenged; preoccupied; doesn't comprehend	1. Use verbal and written communication to tell Barry what is expected of him in 2-5 minutes. Set timer if necessary. Example, "Barry, in two minutes it is time to come to the table." Staff walks away. 2. "Barry, time to come to table <u>now</u>." If he doesn't come within five seconds, say "I'll count to three, then I'll help you; 1, 2, 3." (Help if needed.)
Foot fettish	Sexual symbol	Ignore if he is just commenting. Walk away. Say, "Feet are private" if he goes after staff, his or other's feet.
Self-stimulation such as rocking, hand flapping, shaking head, grinding teeth, head to table		Ignore. No comment or looks or redirect back to appropriate task.
Compulsive, repetitive behaviors (Example: hair cutting)	Change of routine, excessive attention, association with other events	Ignore and redirect or set a specific rule. Control materials if necessary